#### This Page Is Inserted by IFW Operations and is not a part of the Official Record

#### **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

#### IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents will not correct images, please do not report the images to the Image Problem Mailbox.

· = =	. , ,	=		
n,	br	eli më		
₹ }	⋛	> > > >	- 2 E	
		ر ر	NNN	
1-1-2	<b>&gt; to</b>	} n		۵
	٩		47.4	ار 9 كرو
+ -	7	7 7	7 4 4	
-3 x-3	-			0
	1	7 7	+	
J. y 3		>	٥	-
1 1 1	7	45	4 4 4	
== ==	•	7.0	‡	- 9
1 = += = +=	;{+	뇌시	ع ا	
z-t-=.	0	.   .	l lo l	
		PP	13 6	
그 설	J	2 2	+   +	
×	•	7 7	1 1 1	1.5
=-		1. 1		
=			4	
= 1 = 1	5	5 5	3 9 3	
=-	j			1-14
		*		
- X X	7	•    -	취시원	-
= + ~ = -	δà	告去	1 1 4	
		•	• •	0
辛				
	C. ICIN III III III III III III III III II	PHC PKAR PKHC X KX HI LAV Gli	THE FRIENCE FILTE TO ALL STATE	XM P He F K A B F H HE FH HE FU A HU S A HU

LAV mal

•	10 10 10 10 10 10 10 10 10 10 10 10 10 1	100 110 110 110 110 110 110 110 110 110	180 190 100 100 110 110 110 110 110 110 11	160 170 140 190 300 100 160 190 100 100 100 100 100 100 100 100 10	The state of the	410 430 440 430 440 430 440 430 440 410 APAKKGC UKCGKECIIQII KDCTEAQAIIF LGKIVPSTKG AFCHFLQSAP EPTAPIFTI.QS A A
	CELDANEKIN K K K X K X	100 161 K D T K E A D V D V D V	160 SPEVIPHESA L	160 EQICUITIIIP P	340 IAIIPBCKTIL K.	410 APRKKCC
,	10 1162. RAYS VLS C.	90 TVATLYCVIIQ A	UVKVVEEKAF 1	150 0116775729 CQ	330 SUNTETLLVQ HAHPDCKTIL	A10 HCGREGHIAR HCR L L
GAG		LAV BAU ARV 2 1.4V MA1. LAV EL1	1,17 BRU 1,87 1 1,17 H.L 1,17 E.I	LAV BAU LAV 1 LAV HAL LAV HAL	LLV 110 12 12 12 12 13 13 14 14 14 14 14 16 16 16 16 16 16 16 16 16 16 16 16 16	LAY 12U ARY 1 LAY HAL LAY ELI

Coll 66

Central	Central region :				
· · · · · · · · · · · · · · · · · · ·	10 10 10	00 ' 07	0 7	10	<b>8</b> 0
LAV BAU	HEKRUQVHIV VQVDRHAIAT UKSLVKHHHY VSCRAKGUFY KHHYESPHPA ISSEVHIPLE BAALVITITU CLHTCERBUH	ARCUFY KHHYESPHIR I	SSEVHIPLC DAR	ALVITTYV CLII)	ICEADUII
111 1	aki 3		•	0 4>	, <sub>~</sub>
LAV KAL	= :		-	: =	
177 (11		4	•	۲.	ı
•	100	110 110 130 140 150 160.	0 7 1	150	.091
ראא אאח.	LCGCVSIEUR KKRYSTQVDP CLADQLIIILY YFI	DCFSDSA1 AKALLCHIVS	PACEYQACIII K	<b>VCSLQYLAL AA</b>	LITPKKIK
	×	7		•	
ראג אאר	0 1 C	 	3		· -
	_			•	<b>7</b>
	110 180 190				
LAY BAU	PPLPSVIKLI EDBUKKPQKT KCHRCSHTHH CH				
	·				
171 177	C ·			٠	
	a .				
			9	0.0	0 4
*	10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 .	CENTACH CECOMITETY O	COTVACVEAL IA	11 149111 111	I CCAHSA
		Y 8 4			c ·
174 117		₩.	<b>-</b> 4 :	<b>~</b>	σ:
רזא נרו	s Y L Y	<b>~</b>	>		<del>-</del>
LAV SAU	ICYTQQLEAR - MCASES				
111	 				
רזא ווזר	~ :				
177 (1)	s				
•					
•	(tet) S				•
		07	0.7	0.0	
	CONTROL OF THE CONTRACT OF THE CONTROL OF THE CONTR	44	ORBRERO CSOTI	1107515 80	
	TELYDYELL VALLESTER ALL TO THE TANK THE	A A G	0 Y		
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		·	¥ =	J 4 10	
ראא האו	ξ:	· · ·	٠ ت	=======================================	

.

;

•						
80 ITLUQRPLVI V	160 H11CARLL1Q H	240 KKKDSIKUAK	) 10 110 I I I I I	400 EPPFLUIIGYE	480 480	560 CKTPRFREPI 1 P P P P P P P P P P P P P P P P P P P
10 qctvsfiifrq 1 s	150 CTVLVCPTPV 1	230 HPYKIFVFA1	) 10 3 1 H H C 1 P C 1 B	390 LTTPOKKUQK f f	4)0 4)0 4	550 XITTESIVIU C VS A 4Q A 5
40 69TAAHSPTA AEL. QVUGADH MSLSEAGADR QCTVSFIIFPQ ITLUQAPLYT	LDTGADDTV LECHISLPGAV KPKHIGGIGG FIKVRQYDQI LIEIGCHKAİ CTVLVGPTPV HIIGARLLIQ N K IN K N K N N N N N N N N N N N N N N N N	160 190 200 210 220 220 240 160 170 240 250 250 240 240 240 240 240 240 240 240 240 24	160 170 180 180 190 190 190 190 190 190 190 190 190 19	340 330 340 340 340 340 340 340 340 340	410 430 440 . 450 460 470 480 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SOO SIO SIO SIO SO SAO SAO SAO SAO SAO SAO SAO SAO SAO
30 AE1.QVVCADH GE A C -		110 LVCICTLHEK T KD T D	290 AYFSYFLUED K	) ) 0 E i cq iir y k i e	. 450 1 K V Å Å L C K L L K	SSO TARTAGAHTH I H 1KS H
40 EQTAANSPTA	170 KPKHIGGIGG	200 VPLTECKIRA	3 4 0 K S V T V I. D V C D	) 4 0 11 10 10 L Y V C S D L.	4 10 5 Y N N T C T Y N N T C T Y N N T C T T T T T T T T T T T T T T T T	510 LPFKHLKICK Y QY
GRARETSSEQ TRAHSPITESS C L PR	LEEMSLPCAU N K IN K B X	190 PCHUCPK VRQ R	170 17HPAGLKKK	350 QHPBIVITQY K E	430 VIIDIQKLVCK N ER	510 369UTY91T9 1
CKARETSSEU CLPR	LLDTGADDIV	160 PIETVPVKLK	760 1905 V C VQ 1.C	340 HTKILEPTAK QU T K	410 IVLFEXDSUT II Q D E	100 A
FFAEDLAFEQ	90 1x1ccqlxe <sup>j</sup> ll 8 vav	170 1CCTLKFF13	350 LVDFAELHKA E	))0 KGSPA1FQSS 1	LIIPDENTYQP I	490 VICVYYDPSK D
6 & U	88U 1 11/4 6/1	8 & U 1 11 & L 11 & L	6 A U 2 11 A L. E L. 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	8 \$ U 1 11 A L E L 1
, , , , , , , , , , , , , , , , , , ,	1, 1, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,	1. X Y L X Y	, , , , , , , , , , , , , , , , , , , ,	1	1	1

..

••			FIG. 35		
470 580 590 600 610 630 630 640 400 400 A HETVUTPELV KLUTQI.EKEP IVCAETFYVD CAASKEIKLG KACYVTERGA GKVVILTDIT A A H	HQKTCLQAIN LALQDSCLEY HIVTDSQYAL GIIQAQPDKS ESELVHQIIE QIIKKEKVYL AUVPANKCIG GIEQVDKLVS  1 Q D S  R S S E S S E S S S S S S S S S S S S S	130 140 150 150 150 150 170 170 170 1800 1800 1800 1800 1800 1	B 10	100 110 110 110 110 110 110 110 110 110	=
O 67ASKETKLG H H	, , , , , , , , , , , , , , , , , , ,	) 80 91.KG [	1 1 VK A A C U U A . L A	14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	νζυζο
0 61 P IVGAETFYV	1 696 686LVHQ111	))0 K El va s c d k G	850    T b ii C 3 ii F 1 s	130 YSAGEAIVDI 1 H	1 1010 1010 1010 1010 1010
60 ' KLVYQ1.EKE, T	6119AQPbks	3 bF HLPP VVA	640 LAGRUFVKT1 VV	110 HFX AKGG I GG	1000 .Akliadick (
. S 9 C V E F V H T P P L V	6) D KIVTDSQYAL	7 50 KY II S H U A A II A H	830 CQETAYF1.LX 1	910 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	990 SDIKVYPRA B
380 ETUQATUIPE	\$ 	) 10 CIDXAQDUIL C C C	BIOLVIPAET	900  VRDQAEIILK    -  -	980 CECAVVIQD II
\$10 9KETUETUUT , A H A H A A	6 5 0 HQKTCLQAIH H	) 30 . A C 1 A R V L F L D . S . Q	810 LVAVIIVASCY 1EAE 1	MIKELEKIIC QVADO	170 980 990 1000 1000 1010 1010 1010 1010
	8 % U 2 11 % L E L 1	6 A U 1 11 A L E L 1	8 A U 1 1 A L E L 1	4 4 U 3 11 4 L F 1. 1	8 A U 2 11 A L E L I
1	1	1.2 V 1.2 V 1.2 V 1.3 V	1	1 7 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1

• •						
JEAYDTEVIII VUATIIACVPT  S  1	1 1 1 0 0 2 8 5 5 C C H H C K U K C   1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	HYCAPAGFAI	330 CTRPHHHTAK C E	A YQ Q	4 60 TK DC CHH T - V	1 1 > 5 0
AKAYDTEVIII K S C	130 ATHTHSSHTH V CTHACS	1)0 PKVSFEP1P1 T D	310 VQLHQSVEIK E A ET T	390 35CCDFUIVT 1 11	T 470 .cssnitchi. L	MP 330 FLEAACSTH C.
SP 40 10 10 10 10 10 10 10 10 10 10 10 10 10	90 100 110 110 110 110 110 110 110 110 1	210	LKCHKETFKC TCPCTHVSTV QCTHCLRPVV STQLLLHGSL AEEEVVIKSA HFTDHAKTII VQLHQSVEIK CTRPHHHTAK  D K CI K K F F F F F C F		430 410 450 450 460 470 480 6 470 480 11EC K W 1 1 1 KT	SCONIADENIAS ELYKYKVYKI EPLCVAPTEA KRAVYQAEKA AVGI-GALFL CFI.GAAGSTHI CAASHTLIYQ  1
) OVY CVP VUKE	120 F C VK L T F L C Y	210 YTLTS THYTH A 1U S K 1H S K 1H	790 AEEVVIRSA 18 E	143xLAEQTC VX VY CSLL	450 HHUQEVCKA P KT K VAC 8-	SOUTH SOUTH A KANYQAEKA A
	130   156 v b q 56. x	100 111101101115 VV AS T LVQ USUR V SST	319LLLHGSL	360 RAKUHATEEQ Q H E ETE DK Q Q SK Q	11LFCR1KQF 1	510 FLCVAPTKA K I R
Sp 200 0741.1611.181 1	110 11011VEQ1111CU 11	190 1 K ( T A ); V V V V V V V V V V V V V V V V V V	10 4CTHC1RPVV 1 1	#111.04.11.04.15 b) x b) x b) x y y y	410 KSTUSTE CSHHTECSDT 1 ALM HTEC K W MCAKL S STCS 1 A MHT TES HSTMTM	310 LYKYKYVKI E 1 A Q
OHLVAUGUKU HU	100    VTEUFIHUVK 	1 5 T S 1 A C E V Q T T V C S D A V V V K K D K	TCPCTHYSTY K E1 K	)40 11 T A 1 LY T 1-V 5LY TXS-A 5	420 10FKSTUSTE RIN Q KCARL- HI A HII 1	500 CBHABHURS E
HEVK EKY K GTARW R ELLQRH ARGIERHE	17 E E E E E E E E E E E E E E E E E E E	10   10   10   10   10   10   10   10	LKCHKETFHC D K RD K	330 340 SIKIQACPCA AFVTICK-IC H Y H T A 1 D C HF Q LY T 1-V U RTP L Q SLY TXS-AS 1	YCHSTQLFKS TUFKSTUSTE T NALM TSK Q WCAKL- TSG HI A HIII	490 HHCSCIFAPC C T bt v SDH TL STH T
> Z Livy Mul Livy Mul Livy Mul Livy Files	114 bgU 127 11 114 HAL 114 CL1	177 110 127 111 127 121 127 121	LAV 1AU AAV 1 LAV HAL LAV EL1	LAV 380 ARV 3 LAV HAL · LAV EL!	LAV 14U ARV 1 LAV 11AL LAV ELI	LAV 14U ARV 3 LAV HAL LAV ELI
				· · · · · · · ·	- <b>,</b>	

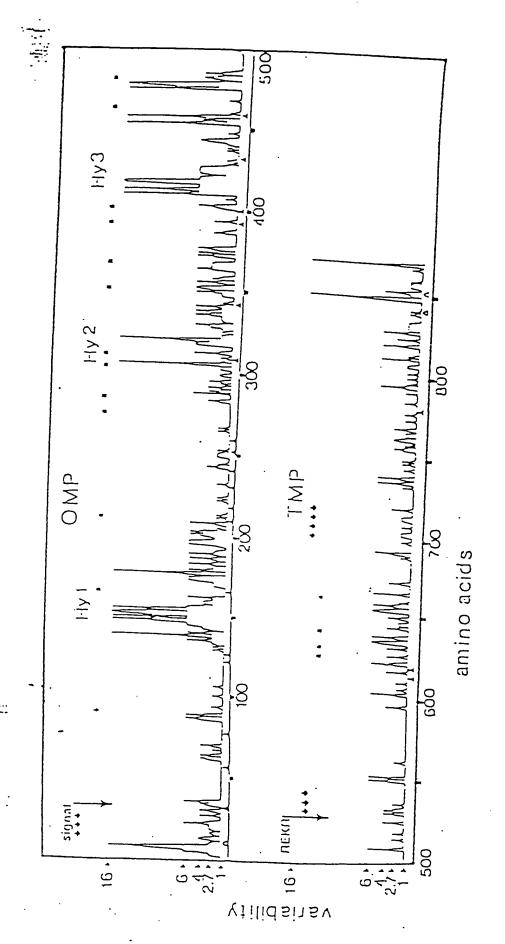
.

	•			·		
640 HASUSHKSLE S A D S A D	) 10 CLVCLAIVFA 1 1	800 ALRPLLLIVT AA A	CLERILL F A 5 3	50   60   70   60   50   50   50   50   50   50   5	150 160 1 C VATPLIFC UCYKLVPVLP 1 F F F F HS	·
630 KLICTTAVPU H F	TIKITIHIYC A IV	11 14 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	14117141149   L   I	10 10 10 10 10 10 10 10 10 10 10 10 10 1	150 FCVAYPLIFG 1 1 F	
QLLGIVGČSG KLIČTTAVPU HASUSHKSLE * 11	) 000 15 5 5 K 5 9 Q	ADADASIALY HESLALIVUD P F C F S C F S C F S C F S C F S C F S C C F S C C F S C C F S C C F S C C F S C C F S C C F S C C F S C C F S C C C F S C C C C	860 1 CYVQCACXX 1 A Y 1 C A P C 1 1 K	30 60 blexuc A1TSSHTAAT  Aviq b c AA SP H	130   140   DLUIYEIQGT   PEUQEYIPG   V   N   1	EYFKHG Y b Y b
610 LAVERYLKDQ R Q	690 690	ADADRSIALV V QC C V L	650 1 AVAECTURY T (E)	) 0 DLE KUC		TIO FHKVARELIIP ETPEHG H A Q Y D E A A T T
190 600 610 AQQILLQLTV VCIKQLQARI LAVERYLKDQ V A Q	670 680 690 700 710 1.11151.1ELSQ HQQEKHEQEL LELDKYASLU MUFHITHULU YIKIFIHIYC 1 YY 1. 5 1 YW 1 K 5 SK R IV 7 T K 5 Q R 1 V	156 160 LPTPACP-DA PUCIFIECCE V P P T	810 830 840 850 850 860 850 860 860 860 860 860 860 860 860 860 86	30 40 kaepa abgygask kaep 17 1 ET Y 40	130 LESQARQUIL VC PX C	100 Y K N K N N K N K N K N K N N K N N K N N K N
290	670 1.11151.151.5 1. Y.T. 1. 1. Y.W.	1) SC LPTPACY - DA V - T A - T	6 6 6 10 LQYUSQELKH	30 KAAEPA ADG AAEP TP T ET	110 110 110	HE HE CA THE
380 30 HKLLAA 1 E	660 E1114775 D K 3 C	CYS7LSFQTII A L L	<u>u</u> =	30 VGUPTVRERM G 541 R1 1	100 TXAAVBLSHF 1 C F 1	180 KTSLLHPYSL F: N HC I Q TH ICQ
S 10 S S S S S S S S S S S S S S S S S S	450 4101111111111 VIE VOEL 0 0 1 0 E 0 0 E	) ) 0 VLS   VIIA VRQ - L L L L L	A 1 V ELLCRAG V T 1 N T	10 HGGKUSKSSV VGUPTVRERM R H G SAI I KI I	90 17007117 4	DKVCEAHKGE C C C C C C C C C C C C C C C C C C C
. 14 BEU 14 Y 1 14 Y 141. 14 EL 1	LAV BRU ARV 3 LAV HAL LAV CE 1	LAV BAU LAV 1 LAV HAL LAV HAL	LAY BAU LAY HAL LAY HAL LAY HAL		174 110 124 110 124 111	LAY 12U LAY 14U

\_

,	<del></del>				
	1.4	141.3	25.3		19.8 509 23.6 350 14.3
POL	1.3	3.1			6.4
GAG	512 0.0	3.4	,		10.8 1002 6 0.0
A LAVbru			2   2   5   5   5   5   5   5   5   5	L AVeli vs.	LAVmal 505
				8	

	_			<del></del>		<del></del>		
-	ori S	2.5	15.0	27.5	23.8			11.3
1 1		0,0	= =	9	000			0,0
central region	=	pu	9.4	11.5	10.4			.6.3
a   2	5	`	97	96	96			96
cent	,	0	10.0	10.4	12.6			192 12.0 96
Ce		0,0	0.0	102	192			192
orf F		1.5	12.6	19.4	27.0			22.5
0	206	0/0	210	200	209			3,6
LAVbru vs.		HTLV-3 us.	ARV-2	L AV eli	LAV mal		LAVeli vs.	LAVmal
A							B	



PIG. 5

		e¥
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	(1) (2) (1) (1) (1) (2) (1) (2) (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2
	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	•
		لامدیمدا ک د بدر د بدر د بدر
130   130		13
GAG a uv.m uv. uv.m uv.m	1.48.1.1 1.48.1 1.68.11.1	C (147.112) 147.1 147.1 147.1 147.11

CAS CASE THE TEST OF THE TEST OF THE TEST OF THE CASE CASE CASE CASE CASE CASE CASE CAS	
(147.114	f UV.110
144 1	147 }
147.111	UV.nt

g 11.11. LV.M UV.tt. 1 A 1 2

h w.m. LV.M 131.47 ? A14

**-**0. 0;

LAV. HAE

GGTCTCTCTTGTTAGACCAGGTCGAGCCCGGGAGCTCTCTGGCTAGCAAGGAACCCACTG CTTAAGCCTCAATAAAGCTTGCCTTGAGTGCCTCAAGCAGTGTGTGCCCATCTGTTGTGT GACTCTGGTAACTAGAGATCCCTCAGACCACTCTAGACGGTGTAAAAATCTCTAGCAGT GCGCCCGAACAGGGACTTTAAAGTGAAAGTAACAGGGGACTCGAAAGCGGAAGTTCCAGAG 200 AAGTTCTCTCGACGCAGGACTCGGCTTGCTGAGGTGCACACAGCAAGAGGCGAGAGCGGC GACTGGTGAGTACGCCAATTTTTGACTAGCGGAGGCTAGAAGGAGAGACATGGGTGCGAG AlaSerValLeuSerGlyGlyLysLeuAspAlaTrpGluLysIleArgLeuArgProGly AGCGTCAGTATTAAGCGGGGAAAATTAGATGCATGGGAGAAAATTCGGTTAAGGCCAGG GlyLysLysLysTyrArgLeuLysEisLeuValTrpAlaSerArgGluLeuGluArgPhe GGGAAAGAAAAATATAGACTGAAACATTTAGTATGGGCAAGCAGGGAGCTGGAAAGATT AlaLeuAsnProGlyLeuLeuGluThrGlyGluGlyCysGluGlnIleHetGluGlnLeu CCCACTTAACCCTGGCCTTTTAGAAACAGGAGAAGGATGTCAACAAATAATGGAACAGCT GlmSerThrLeuLysThrGlySerGluGluIleLysSerLeuTyrAsnThrValAlaThr ACAATCAACTCTCAAGACAGGATCAGAAGAAATTAAATCATTATATAAATACAGTAGCAAC LeuTyrCysValEisGlmArgIleAspValLysAspThrLysGluAlaLeuAspLysIle CCTCTATTGTGTACATCAAAGGATAGATGTAAAAGACACCAAGGAAGCGCTAGATAÁAAT GluGluIleGlnAsnLysSerArgGlnLysTbrGlnGlnAlaAlaAlaAlaGlnGlnAla AlaAlaAlaThrLysAsnSerSerSerValSerClnAsnTyrProIleValGlnAsnAla AGCAGCTGCCACAAAAACAGCAGCAGTGTCAGTCAAAATTACCCCATAGTGCAAAATGC GlmGlyGlmHetIleHisGlmAlaIleSerProArgThrLeuAsnAlaTrpValLysVal ACAAGGGCAAATGATACATCAGGCCATATCACCTAGGACTTTGAATGCATGGGTGAÁAGT Ile@leGluLysAla?heSer?roGluValIle?roHet?heSerAlaLeuSerGluGly AATACTAGAAAAGGCTTTCAGCCCAGAAGTGATACCCATGTTCTCAGCATTATCAGAGOG AlaThrProGlnAspLeuAsmHetLeuAsmIleValGlyGlyEisGlnAlaAlaKet CGCCACCCCACAGATITAAATATGATGCTGAACATAGTTGGAGGACACCAGGCAGCTAT GlaMetLeuLysAspThrIleAsnGluGluAlzAlzAspTrpAspArgValHisProVal CCAAATGTTAAAAGATACCATCAATGAGGAAGCTGCAGACTGGGACAGGGTACATCCAGT . HisAlaGlyProIleProProGlyGlzHetArgGluProArgGlySetAspIleAlaGly ACATGCAGGCCTATTCCCCCAGGCCAGATGAGAGAACCAAGAGGAAGTGACATAGCAGG

The The Seriar Leagland Luglan legly Tro Met Thr Ser As a Pro Pro Ile Pro Val AACTA CTACCCTTCAAGAACAAATAGGATGCATGACAAGCAACCCACCTATCCCAGT 1100 GlyAspIleTyrLysArgTrpIleIleLeuGlyLeuAspLysIleValArgMecTyrSer ProValSerIleLeuAspIleArgGlnGlyProLysGluProPheArgAspTyrValAsp CCCTGTCAGCATTTTGGACATAAGACAAGGGCCAAAGGAACCTTTTAGAGACTATGTAGA ArgPhePheLysThrLeuArgAlaGluGlnAlaThrGlnGluValLysAsnTrpHetThr TAGGTTCTTTAAAACTCTCAGAGCTGAGCAAGCTACACAGGAGGTAAAAAATTGGATGAC GluThrLeuLeuValGlmAsmAlaAsmProAspCysLysThrIleLeuLysAlaLeuGly 'AGAAACCTTGCTGGTCCAAAATGCGAATCCAGACTGTAAGACCATTTTAAAAGCATTAGG ProGlyAlaThrLeuGluGluMetMetThrAlaCysGlnGlyValGlyGlyProSerHis ACCAGGGGCTACATTAGAAGAAATGATGACAGCATGCCAGGGAGTGGGAGGACCCAGTCA 1400 LysAlaArgValLeuAlaGluAlaMetSetGlnAlaThrAsnSetThrAlaAlaIleMet TAÁAGCAAGAGTTTTGGCTGAGGCAATGAGCCAAGCAACAAATTCAACTGCTGCCATAAT HerGlaArgGlyAsaPheLysGlyGlaLysArgIleLysCysPheAsaCysGlyLysGla GATGCAGAGGTAATTTTAAGGGCCAGAAAAGAATTAAGTGTTTCAACTGTGGCAAAGA GlyHisleuAlaArgAsaCysArgAlaProArgLysLysGlyCysTrpLysCysGlyLys AGGÁCACCTAGCCAGÁLATTGCAGGGCCCCTAGGAÁAAAGGGCTGTTGGAÁATGTGGGAÁ PhePheArgGluAsnLeu GluGlyHisGlaMetLysAspCysThTGluATgGlaAlaAspPheLeuGlyLysIleTrp GGAAGGACACCAAATGAAAGACTGCACTGAGAGACAGGCTAATTTTTTAGGGAAAATTTG AlaPheProGlmGlyLysAlaArgGluPheProSerGluGlmThrArgAlaAsmSerPro ProSerHisLysClyArgProClyAsaPheLeuGlaSerArgProGluProThrAlaBro. CCCTTCCCACAAGGGAAGGCCAGGGAATTTCCTTCAGAGCAGAGCAGAGCCAACAGCCCC ThrSerArgGluLeuArgValTrpGlyGlyAspLysThrLeuSerGluThrGlyAlaGlu ProAlaGluSerPheGlyPheGlyGluGluIleLysProSerGlnLysGlnGluGlnLys ACCAGCAGAGACTTCGGGTTTGGGGAGGAGAAAAACCCTCTCAGAAAACAGGAGCAGAA ArgCFAClyIleValSerPheSerPheProClaileThrLeuTrpGlaArgProValVal Asple GluLeuTyrProLeuAlaSerLeuLysSerLeuPheGlyAsnAspGlnLeuSer AGA CCCANTIGTATCCTTTAGCTTCCCTCAAATCACTCTTTGGCAACGACCAGTTGTC Thr ValArgValGlyGlyGlaLeuLysGluAlaLeuLeuAspThrGlyAlaAspAspThr ACACHARGAGARGARGARGARTATOTO DAARAATO DAO AGRAGARGATRATACA ValLeuGluGluIleAsmLeuProGlyLysTrpLysProLysMetIleGlyGlyIleGly GTATTAGNAGAAATAAATTTGCCAGGAAAATGGAAACCAAAAATGATAGGGGGAATTGGA GlyPheIleLysValArgGlaTyrAspGlaIleLeuIleGluIleCysGlyLysLysAla GGTTTTATCAAAGTAAGACAGTATGATCAAATACTTATAGAAATTTGTGGAAAAAAGGCT 2000

IleGlyThrIleLeuValGlyProThrProValAsnIleIleGlyArgAsnHe:LeuThr ATAGGT&CAATATTGGTAGGACCTACACCTGTCAACATAATTGGACGAAATATGTTGACT GlmIleGlyCysThrLeuAsnPheProIleSerProIleGluThrValProValLysLeu CAGATTGGTTGTACTTTAAATTTTCCAATTAGTCCTATTGAGACTGTACCAGTAAAATTA LysProGlyMetAspGlyProArgValLysGlnTrpProLeuThrGluGluLysIleLys AÁGCCAGGGATGGATGGCCAAGGGTTAAACAATGGCCATTGACAGAAGAAAAAATAAA AlaLeuThrGluIleCysLysAspNetGluLysGluGlyLysIleLeuLysIleGlyPro GCATTAACAGAAATTTGTAAAGATATGGAAAAGGAAAAATTTTAAAAATTGGGCCT GluAsnProTyrAsnThrProValPheAlaIleLysLysLysAspSerThrLysTrpArg GAAAATCCATACAATACTCCAGTATTTGCCATAAAGAAAAAAGACAGCACTAAATGGAGA LysLeuValAsnPheArgGluLeuAsnLysArgThrGlnAspPheTrpGluValGlnLeu AAATTAGTGAATTTCAGAGAGCTTAATAAAAGAACTCAAGATTTTTGGGAAGTTCAATTA GlyIlePromisProAlaGlyLeuLysLysLysLysSerValThrValLeuAspValGly GGAATACCACATCCTGCTGGGTTGAAAAAGAAAAATCAGTCACAGTATTGGATGTGGGG AspAlaTyTPheSetValProLeuAspGluAspPheArgLysTytThrAlaPheThtIle GATGCATATTTTTCAGTCCCTTTAGATGAAGATTTCAGGAAGTATACTGCATTCACTATA ProSerTleAsnAsnGluTbrProGlyIleArgTyrGlaTyrAsnValLeuProGlnGly. / CCCAGTATTAATAATGAGACACCAGGGATTAGATATCAGTACAATGTGCTACCACAGGGA TrpLysGlySerProAlaIlePheGlmSerSerHe:ThrLysIleLeuGluProPheArg TGGAAAGGATCACCAGCAATATTCCAGAGTAGCATGACAAAAATCTTAGAACCCTTTAGA ThrLysAsmProGluIleValIleTyrGlmTyrMetAspAspLeuTyrValGlySerAsp LeuGluIleGlyGlnEisArgThrLysIleGluGluLeuArgGluEisLeuLeuLysTrp TTAGAAATAGGACAACATAGALCAAAAATAGAGGAACTAAGAGAACATCTATTGAAATGG GlyPheThrThrProAspLysLysEisGlnLysGluProProPheLeuTrpHetGlyTyr GGATTTACCACCAGACAAAAGCATCAGAAAGAACCCCCATTTCTTTGGATGGCGTAT GluLeeEisProAspLysTrpTbrValGlnProIleGlnLeuProAspLysGluSerTrp GAACT&CACCCTGACAATGGACAGTGCAGCCTATACAACTGCCAGACAAGGAAAGCTGG Tit-ValAsmAspTleGlmLysLeuValGlyLysLeuAsmTrpAlaSetGlmIleTyrPto ACTGTCAATGATACAGAAATTGGTGGGAAAACTAAATTGGGCAAGTCAGATTTÁTCCA ClyIleLysValLysClnLeuCysLysLeuLeuArgClyAlaLysAlaLeuThrAspIle GGAATTAAAGTAAAGCAATTATGTAAACTCCTTAGGGGAGCAAAAGCACTAACAGACATA ValProLeuThrAlaGluAlaGluLeuGluLeuAlaGluAsnArgGluIleLeuLysGlu GTACCATTAACTGCAGAGGCAGAATTAGAATTGGCAGAGAACAGGGAAATTCTAAAAGAA

ProvelEisGlyValTyrTyrAsp?roSerLysAspLeuIleAlaGluIleGlnLysGln CCAGTOLATGGGGTATATTATGACCCATCAAAAGACTTAATAGCAGAAATACAGAAGCAG GlyGlmClyGlnTrpThrTyrGlnIleTyrGlnGluGlnTyrLysAsnLeuLysThrGly GCGCAAGGTCAATGGACATATCAAATATACCAAGAGCAATATAAAAATCTGAAAACAGGG LysTyrAlaArgIleLysSerAlaEisThrAsnAspValLysGlnLeuThrGluAlaVal AAGTATGCAAGAATAAAGTCTGCCCACACTAATGATGTAAAACAATTAACAGAAGCAGTG GlmLysIleAlaGlmGluSerIleValIleTrpGlyLysThrProLysPheArgLeuPro CAAAAGATAGCCCAAGAAAGCATAGTAATATGGGGAAAAACTCCTAAATTTAGACTACCC IleGlmLysGluThrTrpGluAlaTrpTrpThrGluTyrTrpGlmAlaThrTrpIlePro ATACAAAAAGAAACATGGGAGGCATGGTGGACAGAATÁTTGGCAAGCCACCTGGATCCCT GluTrpGluPheValAsnThrPro?roLeuValLysLeuTrpTyrGlnLeuGluThrGlu GAATGGGAGTTTGTCAATACTCCTCCCTAGTAAAACTATGGTACCAGTTAGAAACACAA ProlleValGlyAlaGluThrPheTyrValAspGlyAlaAlaAsrArgGluThrLysLys CCCATAGTAGGÁGCAGAAACTTTCTÁTGTAGATGGGGGCAGCTAATAGAGAAACTAAAAAG GlyLysAlaGlyTyrValThrAspArgGlyArgGlnLysValValSerLeuThrGluThr CGAAAAGCAGATATGTTACTGACAGAGAGAGACAAAAGGTTGTCTCCTTAACTGAAACA ThrAsmGlmLysThrGluLeuGlmAlaIleEisLeuAlaLeuGlmAspSerGlySerGlu ACAAATCAGAAGACTGAATTACAAGCAATCCACTTAGCTTTACAGGATTCAGGATCAGAA ValAsmileValThtAspSerGlmTytAlaLeuGlyIleIleGlmAlaGlmProAspLys GTAAACATAGTAACAGACTCACAGTATGCATTAGGGATTATTCAAGCACAACCAGATAAA SerGluSerGluIleValAsmGlmIleIleGluGlmLeuIleGlmLysAspLysValTyr AGTGAATCAGAGATTGTTAATCAAATAATAGAGCAATTAATACAGAAGGACAAGGTCTAC LeuSerTrpValProAlaHisLysGlyIleGlyGlyAszGluGlzValAspLysLeuVal CTGTCATGGGTACCAGCACACAAGGGATTGGAGGAAATGAACAAGTAGATAAATTAGTC SerSerGlyIleArgLysValLeu?heLeuAspGlyIleAspLysAlaGlmGluGluHis GluLy&TyrHisSerAsnTrpArgAlaHetAlaSerAspPheAsnLeuProProIleVal GAAA TATCACAGCAATTGGAGAGCAATGGCTAGTGACTTTAATCTACCACCTATAGTA AlaLyaGluIleValAlaSerCysAspLysCysGlnLeuLysGlyGluAlaMetEisGly GlnValAspCysSerProGlyIleTrpGlnLeuAspCysThrHisLeuGluGlyLysIle CAAGTAGACTGTAGTCCAGGGATATGGCAATTAGATTGCACACATCTAGAAGGAAAAATA IleIleValAlaValHisValAlaSerGlyTyrIleGluAlaGluValIleProAlaGlu ATCATAGTAGCAGTCCATGTAGCCAGTGGATATATAGAAGCAGAAGTTATCCCAGCAGAA ThrGlyGlnGluThtAlaTyrPheIleLeuLysLeuAlaGlyArgTrpProValLysVal ACAGGACAGGACAGCATACTTATACTAAAATTAGCAGGAAGATGGCCAGTAAAAGTA

zAspásnGTySerAsnPheThrSerAlaAlaValLysAla±laCysTrpTrp GTACAGACAATGGCAGCAATTTCACCAGTGCTGCAGTTAAAGCAGCCTGTTGGTGG AlaAsmIleLysGlmGluPheGlyIleProTyrAsnProGlmSerGlmGlyValValGlu GCAAATATCAAACAGGAATTTGGAATTCCCTACAACCCCCCAAAGTCAAGGAGTAGTGGAA SerMetAsnLysGluLeuLysLysIleIleGlyGlnValArgGluGlnAlaGluEisLeu TCTATGAATAAGGAATTAAAGAAAATCATAGGGCAGGTAAGAGAGCAGCTGAACACCTT 4300 LysThrAlaValGinNetAlaValPheIleEisAsnPheLysArgLysGlyGlyIleGly AÁGACAGCAGTACAAATGGCAGTGTTCATTCACAATTTTAAAAGAAAAGGGGGGATTGGĞ GlyTyrSerAlaGlyGluArgIleIleAspHetIleAlaThrAspIleGlaThrLysGlu GGGTÁCAGTGCAGGGGAAAGAATAATAGACATGATAGCAACAGACATACAAACTAAAGAA-. 4400 LeuGlaLysGlaIleThrLysIleGlaAsaPheArgValTyrTyrArgAspAsaArgAsp TTACAAAAACAAATTACAAAAATTCAAAATTTTCGGGTTTATTACAGGGACAACAGAGAC ProlleTrpLysGlyProAlaLysLeuLeuTrpLysGlyGluGlyAlaValValIleGln CCAATTTGGAAAGGACCAGCAAAACTACTCTGGAAAGGTGŁAGGGGCŁGTAGTAATACAG AspAsaSerAspIleLysValValProArgArgLysAlaLysIleIleArgAspIyrGly GACAATAGTGATATAAAGGTAGTACCAAGAAGAAAAGCAAAAATCATTAGGGATTATGGÄ LysGlmMetAlaGlyAspAspCysValAlaGlyGlyGlmAspGluAsp AsnArgTrpGlnValMetIleValTrpGlnValAspArgHetArgIleArgThrTrpEis AAACAGATGGCAGGTGATGATTGTGTGGCAGGGGGGGACAGGAATAGAACATGGCA SerLeuValLysEisEisHetTyrValSerLysLysAlaLysAspTrpPheTyrArgEis CAGTTTAGTAAAACATCATATGTATGTCTCAAAGAAAGCTAAAAATTGGTTTTATAGACA 4700 HisTyrGluSerArgEisProLysValSerSerGluValEisIleProLeuGlyAspAla TCACTATGAAAGCAGGCATCCAAAAGTAAGTTCAGAAGTACACATCCCACTAGGGGATGC ArgLeuValValArgThrTyrTrpGlyLeuGlnThrGlyGluLysAspTrpHisLeuGly TAGATTAGTAGTAAGAACATATTGGGGTCTGCAAACAGGAGAAAAAGACTGGCACTTGGG EisGlyValSerIleGluTrpArgGlnLysArgTyrSerThrGlnLeuAspProAspLeu ICATEGGGTCTCCATAGAATGGAGGCAGAAAAGATATAGCACACAACTAGATCCTGACCT AlparpGlnLeuIleEisLeuTyTTyTPheAspCysPheSetGluSetAlaIleAtgGln AGCACAACTGATTCATCTGTACTATTTTGATTTTTCAGAATCTGCCATAAGACA AlaIleLeuGlyHisIleValSerProArgCysAspTyrGln2laGlyHisAsnLysVal AGCCATATTAGGACATATAGTTAGTCCTAGGTGTGATTATCAAGCAGGACATAACAAGGT 50 G O GlySeTLeuGlnTyTLeuAlaleuThTAlaLeuIleAlaProLysLysThTATgProPro AGGATCTTTACAGTATTTGGCACTAACAGCATTAATAGCACCAAAAAAGACAAGGCCACC |MetGluGlnAlaProAlaAspGlnGly Leu? to Set ValAtgLysLeuIntGluAspA- gTtpAsaLysPtoGlaGlaIntLysGly TTTGCCTAGTGTTAGGAAGCTAACAGAAGATAGATGGAACAAGCCCCAGCAGCAACGG

ProGlmArteluProHisAsnGluTrpThrLeuGluLeuLeuGluGluLeuLysGlmGlu HisArgGlySerHisThrMetAsnGlyHis CCACAGAGGGAGCCACACAATGAATGGACATTAGAACTTTTAGAGGAGCTTAAGCAAGAA AlaValArgHisPheProArgIleTrpLeuEisSerLeuGlyGlnHisIleTyrGluThr GCTGTCAGACACTTTCCTAGGATATGGCTCCATAGTTTAGGACAACATATCTATGAAACT TyrGlyAspThrTrpGluGlyValGluAlaIleIleArgSerLeuGlnGlnLeuLeuPhe TATGGGGATACCTGGGAAGGAGTTGAAGCTATAATAAGAAGTCTGCAACAACTGCTGTTT IleEisPheArgIleGlyCysGlmHisSerArgIleGlyIleThTArgGlmArgArgAla ArgAsmGlySerSerArgSer HerAsp?roValAsp?roAsnLeuGluProTrpAsnHisProGlySerGlnProArg AGAAATGGATCCAGTAGATCCTAACTTAGAGCCCTGGAACCATCCAGGGAGTCAGCCTAG ThrProCysAsnLysCysTyrCysLysLysCysCysTyrEisCysGloHetCysPhelle CACGCCTTGTAATAAGTGTTATTGTAAAAAGTGCTGCTATCATTGCCAAATGTCCTTCAL.. ThrLysGlyLeuGlyIleSerTyrGlyArgLysLysArgArgGlnArgArgArgProPro AACGAAAGGCTTAGGCATCTCCTATGGCAGAAGAGCGGAGACAGCGAGACAAGACCTCC GlmGlyAsmGlmAlaEisGlmAspProLeuProGluGlm 5600 ACCTTTAGTGATATTAGCAATAGTAGCATTAGTAGTAACGCTAATAATAGCAATAGTTGT CTGGACCATAGTATTTATAGAAATTAGGAAAATAAGAAGACAAAGGAAAAATAGACAGGTT MerArgValArgGluIleGlmArg GATTGATAGAATAAGAGAAGAGCAGAAGATAGTGGCAATGAGAGTGAGGGGAGATACAGA 5 **2** 0 0 AsnTyrGlnAsnTrpTrpArgTrpGlyHetHetLeuLeuGlyHetLeuHetThrCysSer GGAATTATCAAAACTGGTGGAGATGGGGGCATGATGCTCCTTGGGATGTTGATGACCTGTA IleAlaGluAspLeuTrpV2lThrValTyrTyrGlyValProValTrpLysGluAlaThr CTATIC CACALGATITG TGGGTTACAGTITATTATGGGGTACCTGTGTGCAAAGAAGCAA Thr TipLeuPheCysAlaSerAspAlaLysSerTyrGluThrGluValEisAsnIleTrp CCACTAGECTATTTTGTGCATCAGATGCTAAATCATATGAAACAGAAGTACATAACATCT AlaThrHisAlaCysVal PoThtAspProAsnProGlnGluIleGluLeuGluAsnVal OGGCTACACATGCCTGTGTACCCACGGACCCCAACCCACAAAATAGAAATAGAAATG ThrGluGlyPheAsnMetTrpLysAsnAsnMetValGluGlnMetEisGluAspIleIle TCACAGAAGGGTTTAACATGTGGAAAAATAACATGGTGGAGAAGATGCATGAGGATATAA

SerLegTrpAspGlmSerLeuLyaProCysValLyaLeuThrProLeuCysValThrLeuTCAGTTTALEGGATCAAAGCCTAAAACCATGTGTAAAGCTAACCCCACTCTGTGTCACTT

AsnCysThrAsnValAsnGlyThrAlaValAsnGlyThrAsnAlaGlySerAsnArgThr
TAAACTGCACTAATGTGAATGGGACTGCTGTGAATGGGGACTAATGCTGGGAGTAATAGGA

AsnAlaGluLeuLysHetGluIleGlyGluValLysAsnCysSerPheAsnIleThrProCTAATGCAGAATTGAAAATGGAAATTGGAGAAGTGAAAAACTGCTCTTTCAATATAACCC

ValGlySerAspLysArgGlmGluTyrAlaThrPheTyrAspLeuAspLeuValGlmIle CAGTAGGAAGTGATAAAAGGCAAGAATATGCAACTTTTTATAACCTTGATCTAGTACAAA

AspAspSerAspAsnSerSerTyrArgLeuIleAsnCysAsnThrSerValIleThrGln
TAGATGATAGTGATAATAGTAGTTATAGGCTAATAAATTGTAATACCTCAGTAATTACAC

AlaCysProLysValThrPheAspProlleProlleEisTyrCysAlaProAlaGlyPheAGGCTTGTCCAAAGGTAACCTTTGATCCAATTCCCATACATTATTGTGCCCCAGCTGGTT

AlaileLeuLysCysAsnAspLysLysPheAsnGlyThrGluIleCysLysAsnValSerTTGCAATTCTAAAGTGTAATGATAAGAAGTTCAATGGAACGGAAATATGTAAAAATGTCA

ThrValGlaCysThrHisGlyIleLys?roValValSerThrGlaLeuLeuLeuAsaGlyGTACAGTACAATGTACACATGGAATTAAGCCAGTGGTGTCAACTGAACTGCTGTTAAATG

SerLeuAlaGluGluGluIleMetIleArgSerGluAsnLeuThrAspAsnThrLysAsn GCAGTCTAGCAGAAGAGAGATAATGATTAGATCTGAAAATCTCACAGACAATACTAAAA

ArgargGlyIleEisPheGlyProGlyGlmAlaLeuTyrThrThrGlyIleValGlyAsp CAAGAAGAGGGGATACATTTCGGCCCAGGGCAAGCACTCTATACAACAGGGATAGTAGGAG

IleArgArgAlaTyrCysThrIleAsrGluTbrGluTrpAspLysThrLeuGlrGlrVal ATATAAGAAGAGCATATTGTACTATTAATGAAACAGGATAAAACTTTACAACAGG

GlyAmpProGluIleThrThrEisSerPheAsnCysArgGlyGluPhePheTyrCysAsnGAGGGGACCCAGAAATTACAACACACAGTTTTAATTGTAGAGGGGAATTTTTCTACTGTA

Thr 8-c: LysLeuPheAsnSerThrTrpClnAsnAsnGlyAlaArgLeuSerAsnSerThr ATACATCAAAACTGTTTAATAGTACATGGCAGAATAATGGTGCAAGACTAAGTAATAGCA

GluSerTh=GlySerIleTh=LeuProCysArgIleLysGlnIleIleAsnHetT=pGlnCAGAGTCAACTGGTAGTATCACACTCCCATGCAGAATAAAACAAATTATAAATATGTGGC

LysThtGlyLysAlaMetTytAlaPtoPtoIleAlaGlyValIleAsnCysLeuSerAsnAGAAAACAGGAAAAGCTATGTATGCCCCTCCCATCGCAGGAGTCATCAACTGTTTATCAA

IleThrGlyLeuIleLeuThrArgAspGlyGlyAsuSerSerAspAsuSerAspAsuGluATATTACAGGGCTGATATTAACAAGAGATGGTGGAAATAGTAGTCACAATAGTCACAATG

200

ThrLemargProGlyGlyGlyAspHetArgAspAsnTrpIleSerGluLeuTyrLysTyrAGACCTTAAGACCTGGAGGAGATATGAGGGACAATTGGATAAGTGAATTATAAAT

GluArgGluLysArgAlaIleGlyLeuGlyAlaHetPheLeuGlyPheLeuGlyAlaAla TGGAAAGAGAAAAAAGAGCAATAGGACTAGGAGCCATGTTCCTTGGGTTCTTGGGAGCAG

GlySerThrMetGlyAlaAlaSerLeuThrLeuThrValGlmAlaArgGlmLeuLeuSerCAGGAAGCACGATGGGCGCAGCGTCACTAACGCTGACGGTACAGGCCAGACAGTTACTGT

GlyIleValGlmGlmGlmAsmAsmLeuLeuArgAlaIleGluAlaGlmGlmZisLeuLeu CTGGTATAGTGCAACAGCAAAACAATTTGCTGAGGGCTATAGAGGGCGCAACAGCATCTGT

GlmLeuThrValTrpGlyIleLysGlmLeuGlmAlaArgValLeuAlaValGluArgTyrTGCAACTCACGGTCTGGGGCATTAAACAGCTCCAGGCAAGAGTCCTGGCTGTGGAAAGAT

LeuGlmAspGlmArgLeuLeuGlyMetTrpGlyCysSerGlyLysEisIleCysThrThr ACCTACAGGATCAACGGCTCCTAGGAATGTGGGGTTGCTCTGGAAAACACATTTGCACCA

PheValProTrpAsnSerSerTrpSerAsnArgSerLeuAspAspIleTrpAsnAsnMetCATTTGTGCCTTGGAACTCTAGTTGGAGTAATAGATCTCTAGATGACATTTGGAATAATA

ThrTrpMetGlnTrpGluLysGluIleSerAsnTyrThrGlyIleIleTyrAsnLeuIle 'GACCTGGATGCAGTGGGAAAAAGAAATTAGCAATTACACAGGCATAATATACAACTTAA

GluGluSerGlmIleGlmGlmLysAsmGluLysGluLeuLeuGluLeuAspLysTrp TTGAAGAATCGCAAATCCAGCAAGAAAAGAATGAAAAGGAATTATTGGAATTGGACAAGT

AlaSetLeuTrpAsmTrpPheSerlleSerLysTrpLeuTrpTyrIleArgIlePheIleGGGCAAGTTTGTGGAATTGGTTTAGCATATCAAAATGGCTGTGGTATATAAGAATATCA

AT&ValAT&GlnGlyTyrSerProLeuSerLeuGlmThrLeuLeuProThrProAT&GlyAT&GGTTAGGCAGGGGATACTCACCTCTGTCGTTGCAGACCCTCCTCCCAACACCGAGGG

ProFroAspArgProGluGlyIleGluGluGluGlyGlyGluGlnGlyArgGlyArgSer GACCACCCGACAGGCCCGAAGGAATAGAAGAAGGAGGTGGAGAGCAAGGCAGAGGCAGAT

IleArgLeuValAsmGlyPheSerAlaLeuIleTrpAspAspLeuArgAsmLeuCysLeuChATTCGATTGGTGAACGGATTCTCAGCACTTATCTGGGACGACCTGAGGAACCTGTGCC

PheSerTyrHisArgLeuArgAspLeuLeuLeuIleAlaThrArgIleValGluLeuLeu
TCTTCAGTTACCACCGCTTGAGAGACTTACTCTTAATTGCAACGAGGATTGTGGAACTTC

ClyArgargGlyTrpGluAlaLeuLyaTyrLeuTrpAsnLeuLeuGluTyrTrpGlyCln.
TGGGACGCAGGGGGGGGAAGCCCTCAAATATCTGTGGAATCTCCTGCAATATTGGGGTC
. 8200

GluLeuEysAsuSerAlaIleSerLeuLeuAsnThrThrAlaIleAlaValAlaGluCys AGGAACTGAAGAATAGTGCTATTAGCTTGCTTAATACCACAGCAATAGCAGTAGCTGAAT ThrAspArg VallleGlulleGlyGlnArgPheGlyArgAlaIleLeuEisIleProArg GCACAGATAGGGTTATAGAAATAGGACAAAGATTTGGTAGAGCTATTCTCCACATACCTA 8300 HeEGlyGlyLysTrpSerLys ArgIleArgGlnGlyPheGluArgAlaLeuLeu GAAGAATTAGACAGGGCTTCGAAAGGGCTTTGCTATA AKASTODTOKADDOTOBDT. SerSerIleValGlyTrpProLysIleArgGluArgIleArgArgThrProProThrGlu AGTAGCATAGTAGGATGGCCTAAGATTAGGGAAAGAATAAGACGAACTCCCCCAACAGAA ThrGlyValGlyAlaValSerGlnAspAlaValSerGlnAspLeuAspLysCysGlyAla ACAGGAGTAGGAGCAGTATCTCAAGATGCAGTATCTCAAGATTTAGATAAATGTGGAGCA AlaAlaSerSerSerProAlaAlaAsnAsnAlaSerCysGluProProGluGluGluGlu GCCGCAAGCAGCAGTCCAGCAGCTAATAATGCTAGTTGTGAACCACCAGAAGAAGAAGACGAG GluValGlyPheProValArgProGluValProLeuArgProHetThrTyrLysGlyAla GAGGTAGGCTTTCCAGTCCGTCCTCAGGTACCTTTAAGACCAATGACTTATAAAGGAGCT PhcAspLeuSerHisPheLeuLysGluLysGlyGlyLeuAspGlyLeuValTrpSerPro TITGATCTCAGCCACTTTTTAAAACAAAAGGGGGGCCACTGGATGGGTTAGTTTGGTCCCCA LysArgClnGluIleLeuAspLeuTrpValTyrEisThrGlnGlyTyrPheProAspTrp GlaAsaTyrThrProGlyProGlyIleArgPheProLeuThrPheGlyTrpCysPheLys CAGAATTACACACCAGGGCCAGGGATTAGATTCCCACTGACCTTCGGATGGTGCTTTAAG 0033 Leu Val ProKet Ser ProGluGluValGluGluAlaAsmGluGlyGluAsmAsmCysLeu TTAGTACCAATGAGTCCAGAGGAAGTAGAGGAGGCCCAATGAAGGAGAGAACAACTGTCTG LeuRisProlleSerGlmEisGlyMetGluAspAlaGluArgGluValLeuLysTroLys TTACACCCTATTAGCCAACATGGAATGGAGGACGCAGAAAGACAAAGTGCTAAAATGGAAG PheAspSerSerLeuAlaLeuArgEisArgAlaArgGluGlnEisProGluTyrTyrLys TITGACAGCAGCCTAGCACTAAGACACAGAGCCAGAGAACAACATCCGGACTACTACAAA 9000 AspCys GACTG CTGACACACAAGTTGCTGACAGGGGACTTTCCCGGGGACTTTCCAGGGGAGGC GTAACTTGGGCGGGACCGGGGAGTGGCTAACCCTAAGATGCTGCATATAAGCAGCTGCTT IJ<del>Z---></del>? TTCGCCTGTACTGDGTCTCTTGTTAGACCAGGTCGAGCCCGGGAGCTCTCTGGCTAGC AAGGAACCCACTGCTTAAGCCTCAATAAAGCTTGCCTTGAGTGCCTCAA

9200

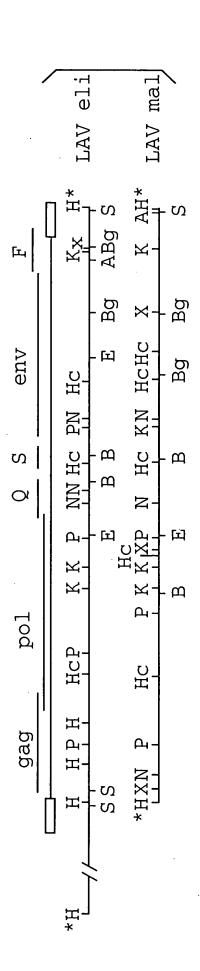


FIG. 1A

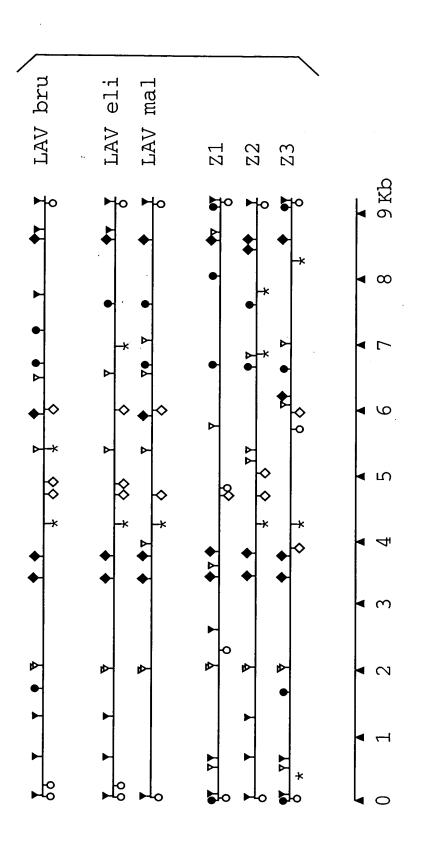
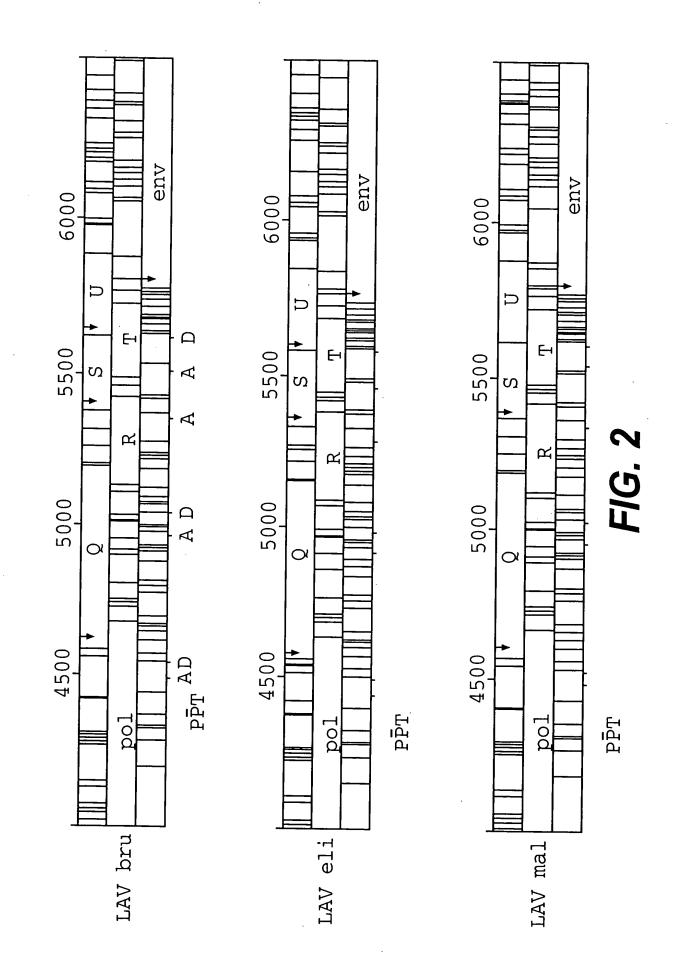


FIG. 1B



80	GSEELKSLYN IK	T	QAISPRT		240 PGQMREPRGS		320 RAEQASQEVK	J L
70	LGVLVFSLVI ME ST K	I AI 150	VQNIQGÇ L	L L	230 VHPVHAGPIA	ъ Б	320 DYVDRFYKTL RAEQASQEVK	Ē£4
80 70 60 80 80 80 80 80 80 80 80 80 80 80 80 80		K ↓p25 140	NSÓN	N N	220 230 INEEAAEWDK VHPVHAGPIA	<u>О</u>	300 IRQGPKEPFR 1	
50	DENFRANKGE	Y L 130	DTGH	AQQAAAA KN N	200 NTMLNTVGGH QAAMQMLKET	Ω	290 RMYSPTSILD	Λ
30 1.PPCCKKKVK 1.KHTVMA CDF	T	120	SKK	Υ. Τ.		I	280 WIILGLNKIV	Λ
	A R	R 110	LDKIEEEQNK E	⊣ W E	190 LSCGATPQDL		270 PIPVGEIYKR	Q
10 MGARASVI,SG GELDRIMEKTR	K A	K K 100	RIEIKDTKEA DV	K G DV	180 SPEVIPMFSA		260 EQIGWMTNNP	A N N
		06	TVATLYCVHQ RIEIKDTKEA DV	Х	170 WVKVVEEKAF SPEVIPMFSA	нн	250 DIAGTTSTLQ EQIGWMTNNP	
GAG LAV BRII	ARV 2 LAV MAL	LAV ELI	LAV BRU ARV 2	LAV ELI	LAV BRU	LAV MAL LAV ELI	LAV BRU ARV 2	LAV MAL LAV ELI

FIG. 3A-1

O [L	C 😭	•
400 RNQRKIVKCF T KG - RI KGP I	480 RPEPTAPPEE	
↓p13 390 TIMMQRGNF 3 N A A	470 PTAPPFLQS I	
350 370 380 \$103  KALGPAATLE EMMTACQGVG GPGHKARVLA EAMSQVTNS- ATIMMQRGNF RNQRKIVKCF  P- N  G S A T A KG - RI  Q S A V T A KGP I	430 440 450 460 470 480 WKCGKEGHQM KDCTERQANF LGKIWPSYKG RPGNFLQSRP EPTAPPFLQS RPEPTAPPEE R R H R H R L R H R HA	
370 GPGHKARVLA S	450 LGKIWPSYKG H R H	
360 EMMTACQGVG	440 KDCTERQANF	LFGNDPSSQ QL L
350 KALGPAATLE G Q	430 WKCGKEGHQM R R R L	510 ELYPLTSLRS LFGNDPSSQ A K QL K L
340 NANPDCKTIL	420 NCRAPRKKGC	500 PSQKQEPIDK QK QK
340 NWMTETLLVQ NANPDCKTIL	410 420 NCGKEGHIAR NCRAPRKKGC K L K	490 SFRSGVETTT F E K GF E IK- GF E I -
LAV BRU ARV 2 LAV MAL LAV ELI	LAV BRU ARV 2 LAV MAL LAV ELI	LAV BRU ARV 2 LAV MAL LAV ELI

FIG. 3A-2

;	80 SLHTGERDWH E	Q N H	160 AALITPKKIK T T A TR T A Q	
ſ	70 DARLVITYW ( K	VR W	150 VGSLQYLAL A	
,	60 ISSEVHIPLG 1 V	H K KN R K V VR Q K K NR K NR E K E	140 150 160 PRCEYQAGHN KVGSLQYLAL AALITPKKIK T D T T T A TR	
C L	50 RHHYESPHPR T	R K	130 RKALLGHIVS KN I YR Q I I D	
0.8	40 VSGKARGWFY I K K	K KN K NR	120 YFDCFSDSAI E E E	
000		· <b>¤</b>	ELADQLIHLY YFDCFSDSAI G H E D E G M E KGHRGSHTWN GH	
O C		M		Ŏ
CENTRAL REGION: Q	MENRWQVMIV		100 LGQGVSIEWR KKRYSTQVDP A K H Q L R  170 R 180	M M
CENTRAL	LAV BRU ARV 2	LAV MAL LAV ELI	LAV BRU ARV 2 LAV MAL LAV ELI LAV ELI	ARV 2 LAV MAL

FIG. 3B-1

	•		
80 FRIGCRHSR Q Q Q			
30 40 50 60 70 80 LLEELKNEA VRHFPRIWLH GLGQHIYETY GDTWAGVEAI IRILQQLLFI HFRIGCRHSR R P S Y Q Q Q S S E S Q Q Q			40 50 60 70 CFHCQVCFTT KALGISYGRK KRRQRRRPPQ GSQTHQVSLS KQ YARGAN ADA YMIG RADPE YPLN G GAPIP
60 GDTWAGVEAI E V			60 KRRQRRRPPQ ( A I
50 GLGQHIYETY S Y S S			50 KALGISYGRK G G
40 VRHFPRIWLH P			40 CFHCQVCFTT YAR YMI YPLN
邑			30 ACTTCYCKKC NN P NK P NK
20 QREPHNEWTL Y Y A	-NGASRS R - S - S	_	20 WKHPGSQPKT R N R
LO 20 MEQAPEDQGP QREPHNEWTL Y A Y A	90 IGVTQQRRAR -NGASRS II R - S IIR - S	S (tat)	10 20 MEPVDPRLEP WKHPGSQPKT N R D N N R D N N R
LAV BRU ARV 2 LAV MAL LAV ELI	LAV BRU ARV 2 LAV MAL LAV ELI		LAV BRU J ARV 2 LAV MAL LAV ELI

### FIG. 3B-2

80	1 2 1	> A	160 LLTQ	M	240 KDSTKWRK		320 PQGW	
80 80	T T T T W K I		NIIGRN		KK		YQYNVL	
70 Octavesven	VGI V DE INF FQ	Х	150 GTVLVGPTPV	ы	230 NPYNTPVFAI	Н	310 SINNETPGIR YQYNVLPQGW	
40 50 60 70 70	NOLOERGADA 	KT TY T	140 150 160 LIEICGHKAI GTVLVGPTPV NIIGRNLLTQ PV	P Q	220 EGKISKIGPE	I R	300 FRKYTAFTIP	. ω
50 Magnet 03/47/01/20	AELQVWGADIN GE	K K	130 FIKVRQYDQI		210 LVEICTEMEK	T T KO	290 AYFSVPLDED K	
		w w	120 KPKMIGGIGG		190 PGMDGPKVKQ WPLTEEKIKA		270 280 290 PHPAGLKKK KSVTVLDVGD AYFSVPLDED K	
30	Transfit 55		110 LEEMSLPGRW N K		190 PGMDGPKVKQ	<b>6</b> 4	270 IPHPAGLKKK	
10 20	GNAKEF SSEQ	P G L PK	100 LLDTGADDTV		180 PIETVPVKLK		260 TQDFWEVQLG	
10 10	r r raduar u <u>v</u>	a a N N	90 100 IKIGGQLKEA LLDTGADDTV I R	VRV	170 IGCTLNFPIS		250 LVDFRELNKR TQDFWEVQLG	Z
POL	ARV 2	LAV MAL LAV ELI	BRU 2	LAV MAL LAV ELI	LAV BRU	LAV MAL LAV ELI	LAV BRU ARV 2	LAV MAL LAV ELI

FIG. 3C-1

400 PPFLWMGYE	480 ENREILKEP	560 KTPKFKLPI I R R
350 360 400 QNPDIVIYQY MDDLYVGSDL EIGQHRTKIE ELRQHLLRWG LTTPDKKHQK EPPFLWMGYE F K E E K F EM F F	430 440 450 460 470 480 VNDIQKLVGK LNWASQIYPG IKVRQLCKLL RGTKALTEVI PLTEEAELEL AENREILKEP A K K A DIV A N ER	510 520 530 540 550 560 QQWTYQIYQ EPFKNLKTGK YARTRGAHTN DVKQLTEAVQ KITTESIVIW GKTPKFKLPI  M  VS  I  QY  IKS  AQ  R  H
380 ELRQHLLRWG E K K E	460 RGTKALTEVI A DIV	540 DVKQLTEAVQ
370 EIGQHRTKIE	450 IKVRQLCKLL K K	530 YARTRGAHTN M IKS M
360 MDDLYVGSDL	440 LNWASQIYPG A	520 EPFKNLKTGK QY
	430 VNDIQKLVGK N ER	510 QGQWTYQIYQ H
330 340 KGSPAIFQSS MTKILEPFRK	410 420 HPDKWTVQP IVLPEKDSWT M Q D E S K E	500 DLIAEIQKQG V
330 KGSPAIFQSS	410 LHPDKWTVQP	490 500 VHGVYYDPSK DLIAEIQKQG E V
LAV BRU ARV 2 LAV MAL LAV ELI	LAV BRU ARV 2 LAV MAL LAV ELI	LAV BRU ARV 2 LAV MAL LAV ELI

### FIG. 3C-2

640 QKVVTLTDTT SIA S E P	720 GNEQVDKLVS	800 DCTHLEGKVI I I	880 IPQSQGVVES
630 640 KAGYVTNRGR QKVVTLTDTT D SIA D S E D P	710 AWVPAHKGIG S	790 VDCSPGIWQL	870 SIKQEFGIPY N
620 GAASRETKLG N N K N	690 700 710 ESELVNQIIE QIIKKEKVYL AWVPAHKGIG S I Q D S	750 760 770 780 790 YHSNWRAMA SDFNLPPVVA KEIVASCDKC QLKGEAMHGQ VDCSPGIWQL DCTHI I	850 870 880 HTDNGSNFTS TTVKAACWWA GIKQEFGIPY NPQSQGVVES AA N
610 IVGAETFYVD I	690 ESELVNQIIE S I	770 KEIVASCDKC	850 HTDNGSNFTS
590 - 600 WEFVNTPPLV KLWYQLEKEP	670 NIVTDSQYAL GIIQAQPDKS	760 SDFNLPPVVA I	
	670 NIVTDSQYAL	750 KYHSNWRAMA N	830 840 GQETAYFLLK LAGRWPVKTI I VV
570 580 QKETWETWWT EYWQATWIPE A M A	660 LALQDSGLEV S	740 GIDKAQDEHE E E E	820 IEAEVIPAET
570 QKETWETWWT A M A	650 NQKTELQAIH N	730 740 AGIRKVLFLD GIDKAQDEHE N E S E	810 LVAVHVASGY
LAV BRU ARV 2 LAV MAL LAV ELI	LAV BRU ARV 2 LAV MAL LAV ELI	LAV BRU ARV 2 LAV MAL LAV ELI (	LAV BRU ARV 2 LAV MAL LAV ELI

## FIG. 3D-1

# the first the state and the state of the sta

		006	910	920	930	940	950	096
LAV BRU ARV 2		MNKELKKIIG QVRDQAEHLK N	TAVQMAVFIH	NFKRKGGIGG	YSAGERIVDI	IATDIQTKEL	FAVQMAVFIH NFKRKGGIGG YSAGERIVDI IATDIQTKEL QKQITKIQNF RVYYRDSRDP KK	KVYYRDSRDP KK
LAV MAL		ы			I M			N
LAV ELI				RR	н		Н	
	970	086	066	1000	1010			·
LAV BRU ARV 2	LWKGPAKLLW KGEGAVVIQD	KGEGAVVIQD	NSDIKVVPRR	NSDIKVVPRR KAKIIRDYGK QMAGDDCVAS RQDED	QMAGDDCVAS	RQDED		
LAV MAL	Н				9	r.		
LAV ELI	Н		К	Λ				

#### FIG. 3D-2

ENT/

400 ISFNČGGEFF R R	480 TRDGGNN T -V NSSD I	560 ARSMTLTVQ V L A L V
350 360 370 380 390 400  MRQAHČNIS RAKWNATLKQ IASKLREQFG NNKT-IIFKQ SSGGDPEIVT HSFNČGGEFF  SI K Q N E VK - V N M R  SI R Y T N ETE DK Q V V GSLL K NS T R  TIG Q SK Q V R GTLL I K P T	440 450 460 470 ITLPCRIKQF INMWQEVGKA MYAPPISGQI RCSSNITGLL L I I C S I KT AVNL I Q I KVAGR- I ERN L	520 530 540 550 560 EPLGVAPTKA KRRVVQREKR AVGI-GALFL GFLGAAGSTM GARSWTLTVQ I V L V M V L E I L- M A L V N V L
380 NNKT-IIFKQ - V N - K NS - I K P	460 MYAPPISGQI C A V I ERN	540 AVGI-GALFL V M I L- M I L- M
370 IASKLREQFG VK V V GSLL- V R GTLL-	450 INMWQEVGKA KT K VAGR-	530 KRRVVQREKR E E
360 RAKWNATLKQ Q N E ETE DK Q Q SK Q		
	430 CSNNTEGSDT RTEG K N - S STGS TES NSTNTN	510 ELYKYKVVKI I R Q
340 AFVTIGK-IG W T RI LY T I-V SLY TKS-RS	420 TWFNSTWSTE RLN Q NGARL- NI A NNI	500 GGDMRDNWRS I
330 340 SIRIQRGPGR AFVTIGK-IG 1 Y W T RI I G HF Q LY T I-V I RTP L Q SLY TKS-RS 1	YCNSTQLFNS TWFNSTWSTE C T NRLN F TSK Q NGARL- TSG NI A NNI T	490 500 NNGSEIFRPG GGDMRDNWRS I T DT V SDN TL STN T
LAV BRU ARV 2 LAV MAL LAV ELI	LAV BRU ARV 2 LAV MAL LAV ELI	LAV BRU ARV 2 LAV MAL LAV ELI

#### FIG. 3E-2

		•	
640 NASWSNKSLE S R D S R N	720 GLVGLRIVFA I I	800 RLRDLLLIVT AA A I AV	GLERILL ' L F A S
630 640 KLIČTTAVPW NASWSNKSLE H F S R D H N S R N	710 720 YIKIFIMIVG GLVGLRIVFA R IV I I I I	790 LRSLČLFSYH R N	870 IRHIPRRIRQ L H L VIN
600 610 620 KQLQARI LAVERYLKDQ QLLGIWGČSG : W R	700 NWFNITNWLW S S SK S Q	780 NGSLALIWDD D F E FS	860 IEVVQGA <u>C</u> RA A R Y IG RFG II R
610 LAVERYLKDQ R Q	690 LELDKWASLW	770 RDRDRSIRLV V QG G G V L	850 IAVAEGTDRV T
600 LTV WGIKQLQARI W	680 NQQEKNEQEL I K T K	760 PEGIEEEGGE D	840 SAVSLLNATA W I T S FD I
AQQHLLQ	670 LINSLIEESQ T YT L I YN	750 PTPRGP-DR V - P A -	830 LQYWSQELKN I G
570 580 ARQLLSGIVQ QQNNLLRAIE	650 660 QIWNNMTWME WDREINNYTS D D Q E D N D Q EK S G E Q E C	740 GYSPLSFQTH R L L	820 WEALKYWWNL S L DI L
	650 QIWNNNYTWME D D Q D Q E Q	730 740 VLSIVNRVRQ GYSPLSFQTH L R L L L L L	810 RIVELLGRRG WEALKYWWNL T I K S L DI L
LAV BRU ARV 2 LAV MAL LAV ELI	LAV BRU ARV 2 LAV MAL LAV ELI	LAV BRU ARV 2 LAV MAL LAV ELI	LAV BRU ARV 2 LAV MAL LAV ELI

## FIG. 3F-1

0 5		
80 GFPV	160 PVEP HS D	
,- EEV - E SD	YKLV F E	
	WCY	
70 LEAQ - PP	150 LTFG	
ACAWL D S D	7RYP)	
NAZ	PGV I	
60 AITSSNTAAT AA SP N	140 YTPC	
rssn'	MÕM	EYFKNC Y D Y D FY –
AIT	FPL	EYF Y Y FY
50 60 70 80 DLEKUG AITSSNTAAT NAACAWLEAQ EE-EEVGFPV  VSQ D C AA SP N S PP E S D SD	130 140 150 160 DLWIYUTQGY FPDWQNYTPC PGVRYPLTFG WCYKLVPVEP I F F HS V I I E E D	210 FHHVARELHP M LR R Q E K M
DI.	IIYU'' V V N	IVARI M R (
1 1 24 1		FHHVA M LR R E K
40 5( ASRDLEKU( V V QD AVSQ D C V	120 IHSQRRQDIL W E W PK E W KK E	200 LEWRFDSRLA V K K K S K N
yVGA	IHSQRR( W VW PK W KK	RFDS K N
ADC		LEW V K K
30 40 RRAEPA ADGVGAASR V TP T ET V QD TM V	110 JKEKGGLEGL D	190 HGMDDPEREV E A K E A E A
EP - R	IKGGI	19 IDDPERE E A K E A E A
R RP	LKE	
20 RERM I	100 SHF	180 NTSLLHPVSL N M NC I Q TN ICQ
IPTVI SAI KI AI	YKAAVDI L G F E L	LITH
VGM	YKA G	NTSI N NC TN
10 (SSV R M I	90 RHT	170 ANKGE 1 E E E DTE
KWSI	VPLF	170 DKVEEANKGE E E E EE E E QE DTE
10 20  U MGGKWSKSSV VGWPTVRERM RRAE R M G SAI RAEP L I KI I TP I AI I TM	90 100 TPQVPLRRHT YKAAVDLSHF L R L I R G F R E L	DKVJ E EE QE
BRU 2 MAL ELI	BRU 2 MAL ELI	BRU 2 MAL ELI
F LAV 1 LAV 1 LAV 1 LAV 1	LAV E ARV 2 LAV M LAV E	LAV B ARV 2 LAV M LAV E
1 I I I I I I I I I I I I I I I I I I I	LEAL	LLAL

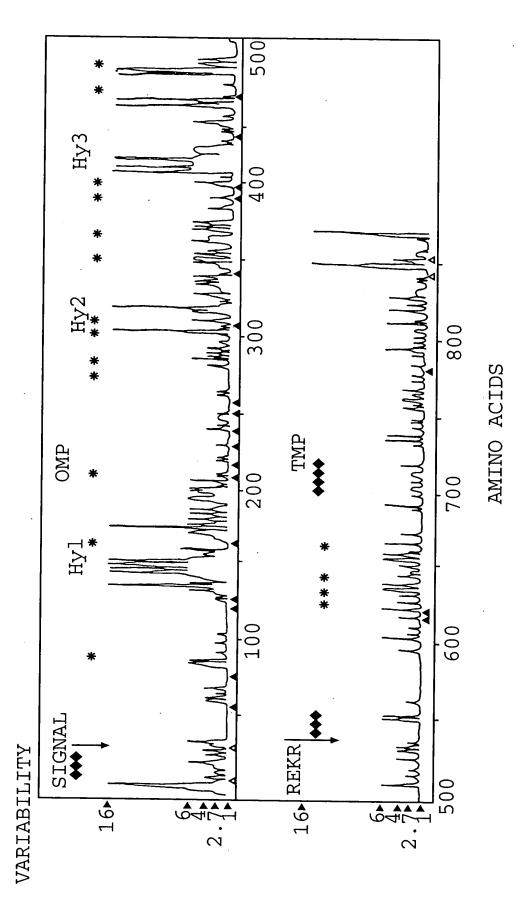
FIG. 3F-2

A	A LAVbru	ر	ر ر د	<u> </u>	100			EXI	ENV		
	VS.	5 	בי	ц	חל	TOI	TOTAL	.O	OMP	i.L	TMP
	HTLV-3 USA	512 0/0	0.8	0.8 1015	1.3	856 5/0	1.4	507 5/0	1.6	349	1.1
	ARV-2 USA	502 12/2	3.4	1003 12/0	3.1	855 17/11	13.0	13.0 $\begin{vmatrix} 505 \\ 17/10 \end{vmatrix}$ 14.3	14.3	350 0/1	11.2
	LAVeli ZAIRE	500 13/1	9.8	1002 13/0	5.5	853 22/14	20.7	20.7 504 22/14	25.3	349	13.8
	LAVmal ZAIRE	505 14/7	12.0	12.0 1002 13/0	7.7	859 13/11	21.7	21.7 509	26.4	350 0/1	14.9
Д	LAVeli vs.										
<u> </u>	LAVmal	505 1/6	10.8	10.8 1002	8.4	8.4 859	19.8	509 8/13	23.6	350	14.3

## FIG. 4A

Ø	A LAVbru		<u> </u>		Cer	ıtral	central region		
	VS.	OF.	OLL F	orf	f Q	orf	í R	orf	£ S
	HTLV-3 USA	206-	1.5	192 0/0	0		pu	0/0	2.5
	ARV-2 USA	210 0/4	12.6	192 0/0	10.0	97 0/1	9.4	81 0/1	15.0
	LAVeli ZAIRE	206	19.4	192 0/0	10.4	0/0 96	11.5	0/0 08	27.5
	LAVmal ZAIRE	2/5	27.0	192 0/0	12.6	96	10.4	80 0/0	23.8
щ	LAVeli vs.								
	LAVmal	209	22.5	192 0/0	12.0	96	6.3	0/0	11.3

### FIG. 4B



F/G. 5

GAG

ಹ

120

T ACA	T ACA	T ACA
$\frac{\partial}{\partial G}$	GCC	D GAC
	GCT	1
	A GCA	l
	A GCA	ı
		I
A GCT	Q GAG	i
A GCA	GCA	ı
A GCT	A GCT	A GCT
A GCA	A GCA	A GCA
A GCA	A GCA	A GCA
Q CAA	Q CAG	CAA
Q CAG	Q CAG	A GCA CĀG
A GCA	TACA	GCA
K AAG	K AAG	X AAG
7	MAL	ELI
ARV	LAV.	LAV.ELI
	A Q Q A A A A A GCA CÂA GCA GCT GCA GCT	K A Q Q A A A A A A A A A A A A A A A A

FIG. 6A-1

Д

480

E GAG

E GAG E GAG

E GAG

E GAA A GCA A GCA വ  $\alpha$ 470 ഗ Д P CCA ACA GCC CCA CCA വ Д P T A ACA GCC ď ⊢ ₽ P CCA P CCA പ ф E GAG ( GAG GAG ഥ ⊡ 드기 P CCA P CCA Д വ CCA 460 R AGA R AGA R AGA R AGA S AGC S AGC S AGC വ Q CAG CAG C Q CAA CTT r CTC ᆸ TIC F F ᄄ ᄺ GGG AAT LAV. BRU N AAT AAC LAV. MAL LAV. ELI Z × ~ ARV ප දිදි ပ ဗ္ဗ

# FIG. 6A-2

30 A GCA	AGCA	TACA	T GCA	C	GAC	D GAC	D GAT	D GAC	
P CCA	P CCA	P CCA	P CCA		ı	ı	Q	ı	
E GAG	EGAG	P CCC	P AAT		I	I	S TCT	I	
A GCT	A GCT	T . ACT	T ACT		ı	I	V GTA	I	
R CGA	R CGA	R CGA	R AGA			ı	A GCA (	1	
I	P CCA	1	1		1	ı	D GAT (	1	6A-3
	EGAG	ľ	í	40 R	CGA	R CGA	R	곳 ?	4-
	A GCT	1	1	Ŋ	TCT	A TCT	S	S TCT (	F/G.
'	R CGA	1	ı	Ą	GCA	V GTA	V GTA	V GTA	
20 R AGA	AGA	R AGA	R AGA	Ą	GCA	A GCA	A GCA	A GCA	
M ATG	M ATG	I ATA	I ATA	ტ	GGA	GGA	GGA	GGA	·
R AGA	R AGA	R AGA	R AGA	>	GTG	V GTG	V GTA	V GTA	
·									
LAV.BRU	2	MAL	ELI		BRU	2	MAL	ELT	
LAV.	ARV 2	LAV.MAL	LAV.ELI		LAV.BRU	ARV 2	LAV.MAL	LAV.ELI	

g

ບ

20 ENV

Φ

CIC M ATG ACC (D) TGG T G W K L W R W TTG TGG ACA TGG CAC DAV.BRU CÂG

ပည္ပ R W AGA TGG TGG IIG TIG CAC CÂG CÂG ARV 2

CIC CIC CIC TTG M ATG ATG ACC ATG ATG තුරි තුරි M TGG R AGA AAA TGG W TGG TGG ĭĞĞ N AAC N AAC LAV.MAL CÂA À LAV.ELI CÂA A

LAV. BRU

သည်

K AAG

140

S AGT T N S ACC AAT AGT GCT ACT AAT ACC AAT AGT AGT AAT N AAT ල්ලීල TTG D GAT

150

I ATA GCA K AAA ACT E GAG ATG M ATG MATG

ARG

SAGT T N T N ACT ACT GCT K AAG SA ESS TTA TW TGG

M AAT

6B-7 F1G.

LAV.MAL

L N C T N V N G T A V N G T N A G S N R T N A E TTA AAC TGC ACT AAT GGG ACT AAT GCG ACT AAT GCA GAA

f L K M E I G E V TTG AAA ATG GAA ATT - GGA GAA GTG

LAV.ELI

L R N N G T M G N N V T T E E K TTG AGG AAC AAT GGC ACT ATG GGG AAC AAT GTC ACT ACA GAG GAG AAA L N C S D E TTA AAC TGT AGT GAA

G G M GGA - - - - ATG

FIG. 6B-2

 $\frac{L}{TTG}$  $^{
m T}$ Y TAT ı 200 S AGC T ACC T ACT D GAT N AAT D GAT LAV. BRU б

IIG R AGG Y N AAC Y T TAT ACC T T N ACT ACC 1 ACT. S AGT A GCT N AAT D GAT ARV 2

R AGG Y TAT S AGT S AGT N AAT D S D GAT AGT GAT D GAT LAV.MAL

L 1

L TTA R AGG N S T N Y AAT AGT ACC AAT TAT ACC D S S S C GAT AGT 7 N AAT D GAC LAV. ELI

Ч

LAV. BRU

C TGT

410

420

430

GGA EAA T ACT AAC N AAT S ව දිලි E GAA TACT L F N S T W F N S T W S T CTG TTT AAT AGT ACT TGG TTT AAT AGT ACT S T Q TCA ACA CAA ( N AAT

I ATC T ACA DGAC S AGT

ARV

N H T K G T AAT CAC ACT GAA GGA ACT L TTA R AGG W TGG ACA N AAT N AAT F  $_{\rm CTG}^{\rm L}$ CAA CAA ACA TACA N AAT C TGT

GGA

I ATC T ACA D GAC N AAT

#### 6B-3 F/G.

LAV. MAL

S TCA E GAG T ACA S AGC AAT S AGT CTA R AGA N S T W Q N N G A AAT AGT ACA TGG CAG AAT AAT GGT GCA F  $\Gamma$ K AAA T S ACA TCA A C N TGT AAT

T G S I ACT GGT AGT ATC

LAV.ELI

T ACA N S AAT AGC T E S N ACA GAG TCA AAT F N S T W N I S A W N I I TTT AAT AGT ACA TGG AAT ATT AGT GCA TGG AAT ATT 3 CIG G GGA ( T S ACA TCA ( C N TGT AAT

N T N I AAC ACA AAC ATC FIG. 6B-4

LAV.MAL  R
GGTCTCTCTTGTTAGACCAGGTCGAGCCCGGGAGCTCTCTGGCTAGCAAGGAACCCACTG
CTTAAGCCTCAATAAAGCTTGCCTTGAGTGCCTCAAGCAGTGTGTGCCCATCTGTTGTGT
GACTCTGGTAACTAGAGATCCCTCAGACCACTCTAGACGGTGTAAAAATCTCTAGCAGTG
GCGCCCGAACAGGGACTTTAAAGTGAAAGTAACAGGGACTCGAAAGCGGAAGTTCCAGAG
AAGTTCTCTCGACGCAGGACTCGGCTTGCTGAGGTGCACACAGCAAGAGGCGAGAGCGGC
GAG 300 MetGlyAlaArg GACTGGTGAGTACGCCAATTTTTGACTAGCGGAGGCTAGAAGGAGAGAGA
AlaSerValLeuSerGlyGlyLysLeuAspAlaTrpGluLysIleArgLeuArgProGly
AGCGTCAGTATTAAGCGGGGAAAATTAGATGCATGGGAGAAAATTCGGTTAAGGCCAGG
GlyLysLysLysTyrArgLeuLysHisLeuValTrpAlaSerArgGluLeuGluArgPhe GGGAAAGAAAAATATAGACTGAAACATTTAGTATGGGCAAGCAGGGAGCTGGAAAGATT
AlaLeuAsnProGlyLeuLeuGluThrGlyGluGlyCysGlnGlnIleMetGluGlnLeuCGCACTTAACCCTGGCCTTTTAGAAACAGGAGAAGGATGTCAACAAATAATGGAACAGCT
GlnSerThrLeuLysThrGlySerGluGluIleLysSerLeuTyrAsnThrValAlaThr ACAATCAACTCTCAAGACAGGATCAGAAGAAATTAAATCATTATATAATACAGTAGCAAC
LeuTyrCysValHisGlnArgIleAspValLysAspThrLysGluAlaLeuAspLysIle CCTCTATTGTGTACATCAAAGGATAGATGTAAAAGACACCAAGGAAGCGCTAGATAAAAT
GluGluIleGlnAsnLysSerArgGlnLysThrGlnGlnAlaAlaAlaAlaGlnGlnAlaAGAGGAAATACAAAATAAGAGCAGGCAAAAGACACAGCAGCAGCAGCAGCAGCAGC
AlaAlaAlaThrLysAsnSerSerSerValSerGlnAsnTyrProIleValGlnAsnAla AGCAGCTGCCACAAAAAACAGCAGCAGTGTCAGTCAAAATTACCCCCATAGTGCAAAATGC
Clarciardia Motalia di adila alia adila alia di adila alia di adila di adila alia adila di adila adila adila adila adila adila di adila di adila di adila ad

GlnGlyGlnMetIleHisGlnAlaIleSerProArgThrLeuAsnAlaTrpValLysVal ACAAGGGCAAATGATACATCAGGCCATATCACCTAGGACTTTGAATGCATGGGTGAAAGT 800

IleGluGluLysAlaPheSerProGluValIleProMetPheSerAlaLeuSerGluGlyAATAGAAGAAAAGGCTTTCAGCCCAGAAGTGATACCCATGTTCTCAGCATTATCAGAGGG

AlaThrProGlnAspLeuAsnMetMetLeuAsnIleValGlyGlyHisGlnAlaAlaMetGGCCACCCACAAGATTTAAATATGATGCTGAACATAGTTGGAGGACACCAGGCAGCTAT

GlnMetLeuLysAspThrileAsnGluGluAlaAlaAspTrpAspArgValHisProVal GCAAATGTTAAAAGATACCATCAATGAGGAAGCTGCAGACTGGGACAGGGTACATCCAGT 1000

HisAlaGlyProIleProProGlyGlnMetArgGluProArgGlySerAspIleAlaGlyACATGCAGGGCCTATTCCCCCAGGCCAGATGAGAACCAAGAGGAAGTGACATAGCAGG

	ThrThrSerThrLeuGlnGluGlnIleGlyTrpMetThrSerAsnProProIleF AACTACTAGTACCCTTCAAGAACAAATAGGATGGATGACAAGCAACCCACCTATCC 1100	ProVal CCAGT
	GlyAspIleTyrLysArgTrpIleIleLeuGlyLeuAsnLysIleValArgMetT GGGAGACATCTATAAAAGATGGATAATCCTGGGATTAAATAAA	ĀTĀG
	ProValSerIleLeuAspİleArgGlnGİyProLysGluProPheArgAspTyrV CCCTGTCAGCATTTTGGACATAAGACAAGGGCCAAAGGAACCTTTTAGAGACTATG	1200 ValAsp STAGA
	ArgPhePheLysThrLeuArgAlaGluGlnAlaThrGlnGluValLysAsnTrpM PAGGTTCTTTAAAACTCTCAGAGCTGAGCAAGCTACACAGGAGGTAAAAAATTGGA	letThr ATGAC
	GluThrLeuLeuValGlnAsnAlaAsnProAspCysLysThrIleLeuLysAlaI AGAAACCTTGCTGGTCCAAAATGCGAATCCAGACTGTAAGACCATTTTAAAAAGCAT	euGly TAGG
	ProGlyAlaThrLeuGluĠluMetMetThrAlaCysGlnGlyValGlyĠlyProS ACCAGGGGCTACATTAGAAGAAATGATGACAGCATGCCAGGGAGTGGGAGGACCCA	SerHis AGTCA
	LysAlaArgValLeuAlaGluAlaMetSerGlnAlaThrAsnSerThrAlaAlaI FAAAGCAAGAGTTTTGGCTGAGGCAATGAGCCAAGCAACAAATTCAACTGCTGCCA	
	MetGlnArgGlyAsnPheLysGlyGlnLysArgIleLysCysPheAsnCysGlyI GATGCAGAGAGGTAATTTTAAGGGCCAGAAAAGAATTAAGTGTTTCAACTGTGGCA	LysGlu
	GlyHisLeuAlaArgAsnCysArgAlaProArgLysLysGlyCysTrpLysCysC AGGACACCTAGCCAGAAATTGCAGGGCCCCTAGGAAAAAGGGCTGTTGGAAATGTC 1600POL	GlyLys GGAA
	PhePheArgGluAs GluGlyHisGlnMetLysAspCysThrGluArgGlnAlaAsnPheLeuGlyLys GGAAGGACACCAAATGAAAGACTGCACTGAGAGACAGGCTAATTTTTTAGGGAAAA	[leTrp
	AlaPheProglnGlyLysAlaArgGluPheProSerGluglnThrArgAlaAsnSe ProSerHisLysGlyArgProGlyAsnPheLeuGlnSerArgProGluProThrA GCCTTCCCACAAGGGAAGGCCAGGGAATTTCCTTCAGAGCAGACCAGAGCCAACAC	AlaPro
	ThrSerArgĠluLeuArgValTrpGlyGlyAspLysThrLeuSerGluThrGlyAl ProAlaGluSerPheGlyPheGlyGluGluIleLysProSerGlnLysGlnGluC ACCAGCAGAGAGCTTCGGGTTTGGGGAGGAGATAAAACCCTCTCAGAAACAGGAGC	inLvs
r	ArgGlnGlyİleValSerPheSerPheProGlnIleThrLeuTrpGlnArgProVa AspLysGluLeuTyrProLeuAlaSerLeuLysSerLeuPheGlyAsnAspGlnI AGACAAGGAATTGTATCCTTTAGCTTCCCTCAAATCACTCTTTGGCAACGACCAG AG <-	alVal LeuSer TTGTC
(	ThrValArgValGlyGlyGlnLeuLysGluAlaLeuLeuAspThrGlyAlaAspAs Gln	spThr
	ACAGTAAGAGTAGGAGGACAGCTAAAAGAAGCTCTATTAGACACAGGAGCAGATGA 1900	_
	ValLeuGluĠluIleAsnLeuProGlyLysTrpLysProLysMetIleGlyGlyI GTATTAGAAGAAATAAATTTGCCAGGAAAATGGAAACCAAAAATGATAGGGGGAA	leGly TTGGA
	GlyPheIleLysValArgGlnTyrAspGlnIleLeuIleGluIleCysGlyLysLy GGTTTTATCAAAGTAAGACAGTATGATCAAATACTTATAGAAATTTGTGGAAAAAA 2000 — — — — — — — — — — — — — — — — — —	ysAla AGGCT
	<sup>2000</sup> FIG. 7B	

IleGlyThrIleLeuValGlyProThrProValAsnIleIleGlyArgAsnMetLeuThrATAGGTACAATATTGGTAGGACCTACACCTGTCAACATAATTGGACGAAATATGTTGACT GlnIleGlyCysThrLeuAsnPheProIleSerProIleGluThrValProValLysLeu CAGATTGGTTGTACTTTAAATTTTCCAATTAGTCCTATTGAGACTGTACCAGTAAAATTA LysProGlyMetAspGlyProArgValLysGlnTrpProLeuThrGluGluLysIleLysAAGCCAGGGATGGATGGCCCAAGGGTTAAACAATGGCCATTGACAGAAGAAAAAATAAAA GluAsnProTyrAsnThrProValPheAlaIleLysLysLysAspSerThrLysTrpArgGAAAATCCATACAATACTCCAGTATTTGCCATAAAGAAAAAAGACAGCACTAAATGGAGA 2300 LysLeuValAsnPheArgGluLeuAsnLysArgThrGlnAspPheTrpGluValGlnLeuAAATTAGTGAATTTCAGAGAGCTTAATAAAAGAACTCAAGATTTTTGGGAAGTTCAATTA GlyIleProHisProAlaGlyLeuLysLysLysLysSerValThrValLeuAspValGlyGGAATACCACATCCTGCTGGGTTGAAAAAGAAAAAATCAGTCACAGTATTGGATGTGGGG AspAlaTyrPheSerValProLeuAspGluAspPheArgLysTyrThrAlaPheThrIleGATGCATATTTTCAGTCCCTTTAGATGAAGATTTCAGGAAGTATACTGCATTCACTATA 2500 ProSerIleAsnAsnGluThrProGlyIleArgTyrGlnTyrAsnValLeuProGlnGly CCCAGTATTAATAATGAGACACCAGGĞATTAGĂTÂTCAGTÂCAATGTGCTACCACAGGGÂ TrpLysGlySerProAlaIlePheGlnSerSerMetThrLysIleLeuGluProPheArg TGGAÁAGGÁTCACCAGCAATATTCCAGAGTAGCATGACAAÁAATCTTAGAACCCTTT AĞA 2600 LeuGluIleGlyGlnHisArgThrLysIleGluGluLeuArgGluHisLeuLeuLysTrp TTAGAAATAGGĀCAACATAGĂACAAĀAATAGAGGAACTAAGĂGAACATCTATTGAĀATGĞ GlyPheThrThrProAspLysLysHisGlnLysGluProProPheLeuTrpMetGlyTyrGGATTTACCACACCAGACAAAAAGCATCAGAAAGAACCCCCCATTTCTTTGGATGGGGTAT 2800 GluLeuHisProAspLysTrpThrValGlnProIleGlnLeuProAspLysGluSerTrpGAACTCCACCCTGACAAATGGACAGTGCAGCCTATACAACTGCCAGACAAGGAAAGCTGG ThrValAsnAspIleGlnLysLeuValGlyLysLeuAsnTrpAlaSerGlnIleTyrProACTGTCAATGATATACAGAAATTGGTGGGAAAACTAAATTGGGCAAGTCAGATTTATCCA 2900 GlyIleLysValLysGlnLeuCysLysLeuLeuArgGlyAlaLysAlaLeuThrAspIle GGAATTAAAGTAAAGCAATTATGTAAACTCCTTAGGGGAGCAAAAGCACTAACAGACATA 3000 ValProLeuThrAlaGluAlaGluLeuGluLeuAlaGluAsnArgGluIleLeuLysGlu

GTACCATTAACTGCAGAGGCAGAATTAGAATTGGCAGAGAACAGĞGAAATTCTAAÂAGAA

ProValHisGlyValTyrTyrAspProSerLysAspLeuIleAlaGluIleGlnLysGlnCCAGTGCATGGGGTATATTATGACCCATCAAAAGACTTAATAGCAGAAATACAGAAGCAG 3100 GlyGlnGlyĠlnTrpThrTyrGlnIleTyrGlnGluĞlnTyrLysAsnLeuLysThrGlyGGGCAAGGTCAATGGACATATCAAATATACCAAGAGCAATATAAAAATCTGAAAACAGGG LysTyrAlaArgIleLysSerAlaHisThrAsnAspValLysGlnLeuThrGluAlaValAAGTATGCAAGAATAAAGTCTGCCCACACTAATGATGTAAAACAATTAACAGAAGCAGTG 3200 GlnLysIleAlaGlnGluSerIleValIleTrpGlyLysThrProLysPheArgLeuProCAAAAGATAGCCCAAGAAAGCATAGTAATATGGGGAAAAACTCCTAAATTTAGACTACCC IleGlnLysGluThrTrpGluAlaTrpTrpThrGluTyrTrpGlnAlaThrTrpIleProATACAAAAAGAAACATGGGAGGCATGGTGGACAGAATATTGGCAAGCCACCTGGATCCCT GluTrpGluPheValAsnThrProProLeuValLysLeuTrpTyrGlnLeuGluThrGluGAATGGGAGTTTGTCAATACTCCTCCCCTAGTAAAACTATGGTACCAGTTAGAAACAGAA 3400 ProlleValGlyAlaGluThrPheTyrValAspGlyAlaAlaAsnArgGluThrLysLysCCCATAGTAGGAGCAGAAACTTTCTATGTAGATGGGGCAGCTAATAGAGAAACTAAAAAG GlyLysAlaĠlyTyrValThrAspArgGlyArgGlnLysValValSerLeuThrGluThrGGAAAAGCAGGATATGTTACTGACAGAGGAAGACAAAAGGTTGTCTCCTTAACTGAAACA 350Ő ThrAsnGlnLysThrGluLeuGlnAlaIleHisLeuAlaLeuGlnAspSerGlySerGluACAAATCAGAAGACTGAATTACAAGCAATCCACTTAGCTTTACAGGATTCAGGATCAGAA ValAsnIleValThrAspSerGlnTyrAlaLeuGlyIleIleGlnAlaGlnProAspLysGTAAACATAGTAACAGACTCACAGTATGCATTAGGGATTATTCAAGCACAACCAGATAAA SerGluSerGluIleValAsnGlnIleIleGluGlnLeuIleGlnLysAspLysValTyrAGTGAATCAGAGATTTAATCAAATAATAGAGCAATTAATACAGAAGGACAAGGTCTAC 3700 LeuSerTrpValProAlaHisLysGlyIleGlyGlyAsnGluGlnValAspLysLeuValCTGTCATGGGTACCAGCACAAAGGGATTGGAGGAAATGAACAAGTAGATAAATTAGTC 3800 GluLysTyrHisSerAsnTrpArgAlaMetAlaSerAspPheAsnLeuProProIleValGAAAAATATCACAGCAATTGGAGAGCAATGGCTAGTGACTTTAATCTACCACCTATAGTA 3900 GlnValAspCysSerProGlyIleTrpGlnLeuAspCysThrHisLeuGluGlyLysIleCAAGTAGACTGTAGTCCAGGGATATGGCAATTAGATTGCACACATCTAGAAGGAAAAATA 4000 IleIleValAlaValHisValAlaSerGlyTyrIleGluAlaGluValIleProAlaGluATCATAGTAGCAGTCCATGTAGCCAGTGGATATATAGAAGCAGAAGTTATCCCAGCAGAA ThrGlyGlnGluThrAlaTyrPheIleLeuLysLeuAlaGlyArgTrpProValLysValACAGGACAGGACAGCATACTTTATACTAAAATTAGCAGGAAGATGGCCAGTAAAAGTA

4100

ValHisThrAspAsnGlySerAsnPheThrSerAlaAlaValLysAlaAlaCysTrpTrpGTACACACACACACACACACACTGCAGCAATTTCACCAGTGCTGCAGTTAAAGCAGCCTGTTGGTGG
AlaAsnIleLysGlnGluPheGlyIleProTyrAsnProGlnSerGlnGlyValValGluGCAAATATCAAACAGGAATTTGGAATTCCCTACAACCCCCAAAGTCAAGGAGTAGTGGAA
SerMetAsnLysGluLeuLysLysIleIleGlyGlnValArgGluGlnAlaGluHisLeuTCTATGAATAAGGAATTAAAGAAAATCATAGGGCAGGTAAGAGAGCAAGCTGAACACCTT
LysThrAlaValGlnMetAlaValPheIleHisAsnPheLysArgLysGlyGlyIleGlyAAGACAGCAGTACAAATGGCAGTGTTCATTCACAATTTTAAAAGAAAAGGGGGGGATTGGG
GlyTyrSerAlaGlyGluArgIleIleAspMetIleAlaThrAspIleGlnThrLysGluGGGTACAGTGCAGGGGAAAGAATAATAGACATGATAGCAACAGACATACAAACTAAAGAA
LeuGlnLysGlnIleThrLysIleGlnAsnPheArgValTyrTyrArgAspAsnArgAspTTACAAAAACAAAATTCAAAAATTTTCGGGTTTATTACAGGGACAACAGAGAC
ProlleTrpLysGlyProAlaLysLeuLeuTrpLysGlyGluGlyAlaValValIleGln CCAATTTGGAAAGGACCAGCAAAACTACTCTGGAAAGGTGAAGGGCAGTAGTAATACAG
AspAsnSerAspIleLysValValProArgArgLysAlaLysIleIleArgAspTyrGly
MetGli GACAATAGTGATATAAAGGTAGTACCAAGAAGAAAAGCAAAAATCATTAGGGATTATGGA
LysGlnMetAlaGlyAspAspCysValAlaGlyGlyGlnAspGluAsp AsnArgTrpGlnValMetIleValTrpGlnValAspArgMetArgIleArgThrTrpHis AAACAGATGGCAGGTGATGATGTGTGTGGCAGGTGACAGGATGAGGATTAGAACATGGCA
SerLeuValLysHisHisMetTyrValSerLysLysAlaLysAsnTrpPheTyrArgHisCAGTTTAGTAAAACATCATATGTATGTCTCAAAGAAAGCTAAAAATTGGTTTTATAGACA
HisTyrGluSerArgHisProLysValSerSerGluValHisIleProLeuGlyAspAlaTCACTATGAAAGCAGCATCCAAAAGTAAGTTCAGAAGTACACATCCCACTAGGGGATGC
ArgLeuValValArgThrTyrTrpGlyLeuGlnThrGlyGluLysAspTrpHisLeuGlyTAGATTAGTAGTAAGAACATATTGGGGTCTGCAAACAGGAGAAAAAGACTGGCACTTGGG
HisGlyValSerIleGluTrpArgGlnLysArgTyrSerThrGlnLeuAspProAspLetTCATGGGGTCTCCATAGAATGGAGGCAGAAAAGATATAGCACACAACTAGATCCTGACCT
AlaAspGlnLeuIleHisLeuTyrTyrPheAspCysPheSerGluSerAlaIleArgGlnAGCAGACCAACTGATTCATCTGTACTATTTTGATTGTTTTTCAGAATCTGCCATAAGACA
AlaIleLeuGlyHisIleValSerProArgCysAspTyrGlnAlaGlyHisAsnLysVa. AGCCATATTAGGACATATAGTTAGTCCTAGGTGTGATTATCAAGCAGGACATAACAAGGT
GlySerLeuGlnTyrLeuAlaLeuThrAlaLeuIleAlaProLysLysThrArgProProAGGATCTTTACAGTATTTGGCACTAACAGCATTAATAGCACCAAAAAAAGACAAGGCCACC
MetGluGlnAlaProAlaAspGlnGly LeuProSerValArgLysLeuThrGluAspArgTrpAsnLysProGlnGlnThrLysGly TTTGCCTAGTGTTAGGAAGCTAACAGAAGATAGATGGAACAAGCCCCAGCAGACCAAGGG

FIG. 7E

ProGlnArgGluProHisAsnGluTrpThrLeuGluLeuLeuGluGluLeuLysGlnGluHisArgGlySerHisThrMetAsnGlyHis
CCACAGAGGGAGCCACACAATGAATGGACATTAGAACTTTTAGAGGAGCTTAAGCAAGAA
AlaValArgHisPheProArgIleTrpLeuHisSerLeuGlyGlnHisIleTyrGluThr GCTGTCAGACACTTTCCTAGGATATGGCTCCATAGTTTAGGACAACATATCTATGAAACT
TyrGlyAspThrTrpGluGlyValGluAlaIleIleArgSerLeuGlnGlnLeuLeuPhe TATGGGGATACCTGGGAAGGAGTTGAAGCTATAATAAGAAGTCTGCAACAACTGCTGTTT 5300
IleHisPheArgIleGlyCysGlnHisSerArgIleGlyIleThrArgGlnArgArgAla ATTCATTTCAGAATTGGGTGTCAACATAGCAGAATAGGCATTACTCGACAGAGAGAG
ArgAsnGlvSerSerArgSerl
MetAspProValAspPrbAsnLeuGluProTrpAsnHisProGlySerGlnProArg AGAAATGGATCCAGTAGATCCTAACTTAGAGCCCTGGAACCATCCAGGGAGTCAGCCTAG
ThrProCysAsnLysCysTyrCysLysLysCysCysTyrHisCysGlnMetCysPheIle GACGCCTTGTAATAAGTGTTATTGTAAAAAGTGCTGCTATCATTGCCAAATGTGCTTCAT 5500
ThrLysGlyLeuGlyIleSerTyrGlyArgLysLysArgArgGlnArgArgArgProProAACGAAAGGCTTAGGCATCTCCTATGGCAGGAAGAAGCCGGAGACAGCGACGAAGACCTCC
GlnGlyAsnGlnAlaHisGlnAspProLeuProGluGln TCAGGGCAATCAGGCTCATCAAGATCCTCTACCAGAGCAGTAAGTA
ACCTTTAGTGATATTAGCAATAGTAGCATTAGTAGTAACGCTAATAATAGCAATAGTTGT 5700
GTGGACCATAGTATTTATAGAAATTAGGAAAATAAGAAGACAAAGGAAAATAGACAĞĞTT ENV
MetArgValArgGluIleGlnArgGATTGATAGAATAAGAGAAAGAGCAGAAGATAGTGGCAATGAGAGTGAGGGAGATACAGA
AsnTyrGlnAsnTrpTrpArgTrpGlyMetMetLeuLeuGlyMetLeuMetThrCysSerGGAATTATCAAAACTGGTGGAGATGGGGCATGATGCTCCTTGGGATGTTGATGACCTGTA
IleAlaGluAspLeuTrpValThrValTyrTyrGlyValProValTrpLysGluAlaThr GTATTGCAGAAGATTTGTGGGTTACAGTTTATTATGGGGTACCTGTGTGGAAAGAAGCAA 5900
ThrThrLeuPheCysAlaSerAspAlaLysSerTyrGluThrGluValHisAsnIleTrrCCACTACTCTATTTTGTGCATCAGATGCTAAATCATATGAAACAGAAGTACATAACATCT 6000
AlaThrHisAlaCysValProThrAspProAsnProGlnGluIleGluLeuGluAsnValGGGCTACACATGCCTGTGTACCCACGGACCCCAACCCACAAGAAATAGAACTGGAAAATG
ThrGluGlyPheAsnMetTrpLysAsnAsnMetValGluGlnMetHisGluAspIleIleTCACAGAAGGGTTTAACATGTGGAAAAATAACATGGTGGAGCAGATGCATGAGGATATAA 6100

#### FIG. 7F

SerLeuTrpAspGlnSerLeuLysProCysValLysLeuThrProLeuCysValThrLeuTCAGTTTATGGGATCAAAGCCTAAAACCATGTGTAAAGCTAACCCCACTCTGTGTCACTT
AsnCysThrAsnValAsnGlyThrAlaValAsnGlyThrAsnAlaGlySerAsnArgThr TAAACTGCACTAATGTGAATGGGACTGCTGTGAATGGGACTAATGCTGGGAGTAATAGGA
AsnAlaGluLeuLysMetGluIleGlyGluValLysAsnCysSerPheAsnIleThrPro
ValGlySerAspLysArgGlnGluTyrAlaThrPheTyrAsnLeuAspLeuValGlnIleCAGTAGGAAGTGATAAAAGGCAAGAATATGCAACTTTTTATAACCTTGATCTAGTACAAA
AspAspSerAspAsnSerSerTyrArgLeuIleAsnCysAsnThrSerValIleThrGlr TAGATGATAGTGATAATAGTAGTTATAGGCTAATAAATTGTAATACCTCAGTAATTACAC
AlaCysProLysValThrPheAspProIleProIleHisTyrCysAlaProAlaGlyPheAGGCTTGTCCAAAGGTAACCTTTGATCCAAATTCCCATACATTATTGTGCCCCCAGCTGGTT
AlaIleLeuLysCysAsnAspLysLysPheAsnGlyThrGluIleCysLysAsnValSerTTGCAATTCTAAAGTGTAATGATAAGAAGTTCAATGGAACGGAAATATGTAAAAATGTCA
ThrValGlnCysThrHisGlyIleLysProValValSerThrGlnLeuLeuLeuAsnGlyGTACAGTACAATGTACACATGGAATTAAGCCAGTGGTGTCAACTCAACTGCTGTTAAATG
SerLeuAlaGluGluIleMetIleArgSerGluAsnLeuThrAspAsnThrLysAsr GCAGTCTAGCAGAAGAAGAGATAATGATTAGATCTGAAAAATCTCACAGACAATACTAAAA
IleIleValGlnLeuAsnGluThrValThrIleAsnCysThrArgProGlyAsnAsnThrACATAATAGTACAGCTTAATGAAACTGTAACAATTAATTGTACAAGGCCTGGAAACAATA
ArgArgGlyIleHisPheGlyProGlyGlnAlaLeuTyrThrThrGlyIleValGlyAsrCAAGAAGAGGGATACATTTCGGCCCAGGGCAAGCACTCTATACAACAGGGATAGTAGGAG
IleArgArgAlaTyrCysThrIleAsnGluThrGluTrpAspLysThrLeuGlnGlnValATATAAGAAGAGCATATTGTACTATTAATGAAACAGAATGGGATAAAACTTTACAACAGG
AlaValLysLeuGlySerLeuLeuAsnLysThrLysIleIlePheAsnSerSerSerGlyTAGCTGTAAAACTAGGAAGCCTTCTTAACAAAACAAAAATAATTTTTAATTCATCCTCAG6900
GlyAspProGluIleThrThrHisSerPheAsnCysArgGlyGluPhePheTyrCysAsr GAGGGGACCCAGAAATTACAACACACAGTTTTAATTGTAGAGGGGAATTTTTCTACTGTA
ThrSerLysLeuPheAsnSerThrTrpGlnAsnAsnGlyAlaArgLeuSerAsnSerThrATACATCAAAACTGTTTAATAGTACATGGCAGAATAATGGTGCAAGACTAAGTAATAGCA
GluSerThrGlySerIleThrLeuProCysArgIleLysGlnIleIleAsnMetTrpGlrCAGAGTCAACTGGTAGTATCACACTCCCATGCAGAATAAAACAAATTATAAATATGTGGC
LysThrGlyLysAlaMetTyrAlaProProIleAlaGlyValIleAsnCysLeuSerAsr AGAAAACAGGAAAAGCTATGTATGCCCCTCCCATCGCAGGAGTCATCAACTGTTTATCAA 7100
IleThrGlyLeuIleLeuThrArgAspGlyGlyAsnSerSerAspAsnSerAspAsnGluATATTACAGGGCTGATATTAACAAGAGATGGTGGAAATAGTAGTGACAATAGTAGAATAGTGACAATAGTAGAATAGTAGAATAGTAGAATAGTAGAATAGTAG
' FIO 70 ' 1200

FIG. 7G



ThrLeuArgProGlyGlyGlyAspMetArgAspAsnTrpIleSerGluLeuTyrLysTyrAGACCTTAAGACCTGGAGGAGGAGATATGAGGGACAATTGGATAAGTGAATTATAAAT

GluArgGluLysArgAlaIleGlyLeuGlyAlaMetPheLeuGlyPheLeuGlyAlaAla TGGAAAGAGAAAAAGAGCAATAGGACTAGGAGCCATGTTCCTTGGGTTCTTGGGAGCAG

GlySerThrMetGlyAlaAlaSerLeuThrLeuThrValGlnAlaArgGlnLeuLeuSerCAGGAAGCACGATGGGCGCAGCGTCACTAACGCTGACGGTACAGGCCAGACAGTTACTGT.7400

GlyIleValGlnGlnGlnAsnAsnLeuLeuArgAlaIleGluAlaGlnGlnHisLeuLeuCTGGTATAGTGCAACAGCAAAACAATTTGCTGAGGGCTATAGAGGCGCAACAGCATCTGT

GlnLeuThrValTrpGlyIleLysGlnLeuGlnAlaArgValLeuAlaValGluArgTyrTGCAACTCACGGTCTGGGGCATTAAACAGCTCCAGGCAAGAGTCCTGGCTGTGGAAAGAT

LeuGlnAspGlnArgLeuLeuGlyMetTrpGlyCysSerGlyLysHisIleCysThrThr ACCTACAGGATCAACGGCTCCTAGGAATGTGGGGGTTGCTCTGGAAAACACATTTGCACCA

PheValProTrpAsnSerSerTrpSerAsnArgSerLeuAspAspIleTrpAsnAsnMetCATTTGTGCCTTGGAACTCTAGTTGGAGTAATAGATCTCTAGATGACATTTGGAATAATA

ThrTrpMetGlnTrpGluLysGluIleSerAsnTyrThrGlyIleIleTyrAsnLeuIleTGACCTGGATGCAGTGGGAAAAAGAAATTAGCAATTACACAGGCATAATATACAACTTAA

GluGluSerGlnIleGlnGlnGluLysAsnGluLysGluLeuLeuGluLeuAspLysTrp TTGAAGAATCGCAAATCCAGCAAGAAAAGAATGAAAAGGAATTATTGGAATTGGACAAGT

AlaSerLeuTrpAsnTrpPheSerIleSerLysTrpLeuTrpTyrIleArgIlePheIleGGGCAAGTTTGTGGAATTGGTTTAGCATATCAAAATGGCTGTGGTATATAAGAATATTCA

ArgValArgGlnGlyTyrSerProLeuSerLeuGlnThrLeuLeuProThrProArgGlyATAGAGTTAGGCAGGGATACTCACCTCTGTCGTTGCAGACCCTCCTCCCAACACCGAGGG

ProProAspArgProGluGlyIleGluGluGluGlyGlyGluGlnGlyArgGlyArgSer GACCACCCGACAGGCCCGAAGGAATAGAAGAAGAAGGTGGAGAGCAAGGCAGAGCAGAT 8000

IleArgLeuValAsnGlyPheSerAlaLeuIleTrpAspAspLeuArgAsnLeuCysLeuCAATTCGATTGGTGAACGGATTCTCAGCACTTATCTGGGACGACCTGAGGAACCTGTGCC

PheSerTyrHisArgLeuArgAspLeuLeuLeuIleAlaThrArgIleValGluLeuLeuTCTTCAGTTACCACCGCTTGAGAGACTTACTCTTAATTGCAACGAGGATTGTGGAACTTC

GlyArgArgGlyTrpGluAlaLeuLysTyrLeuTrpAsnLeuLeuGlnTyrTrpGlyGln TGGGACGCAGGGGGGAAGCCCTCAAATATCTGTGGAATCTCCTGCAATATTGGGGTC 8200



GluLeuLysAsnSerAlaIleSerLeuLeuAsnThrThrAlaIleAlaValAlaGluCysAGGAACTGAAGAATAGTGCTATTAGCTTGCTTAATACCACAGCAATAGCAGTAGCTGAAT

ThrAspArgValIleGluIleGlyGlnArgPheGlyArgAlaIleLeuHisIleProArgGCACAGATAGGGTTATAGAAATAGGACAAAGATTTGGTAGAGCTATTCTCCACATACCTA

ArgIleArgGlnGlyPheGluArgAlaLeuLeu MetGlyGlyLysTrpSerLys

GAAGAATTAGACAGGGCTTCGAAAGGGCTTTGCTATAACATGGGTGGCAAGTGGTCAAAA

SerSerIleValGlyTrpProLysIleArgGluArgIleArgArgThrProProThrGluAGTAGCATAGTAGGATGGCCTAAGATTAGGGAAAGAATAAGACGAACTCCCCCAACAGAA

ThrGlyValGlyAlaValSerGlnAspAlaValSerGlnAspLeuAspLysCysGlyAlaACAGGAGTAGGAGCAGTATCTCAAGATGCAGTATCTCAAGATTTAGATAAATGTGGAGCA

GluValGlyPheProValArgProGlnValProLeuArgProMetThrTyrLysGlyAlaGAGGTAGGCTTCCAGTCCGTCCTCAGGTACCTTTAAGACCAATGACTTATAAAGGAGCT

PheAspLeuSerHisPheLeuLysGluLysGlyGlyLeuAspGlyLeuValTrpSerPro

GlnAsnTyrThrProGlyProGlyIleArgPheProLeuThrPheGlyTrpCysPheLysCAGAATTACACACCAGGGCCAGGGATTAGATTCCCACTGACCTTCGGATGGTGCTTTAAG

LeuValProMetSerProGluGluValGluGluAlaAsnGluĞlyGluAsnAsnCysLeuTTAGTACCAATGAGTCCAGAGGAAGTAGAGGAGGCCCAATGAAGGAGAACAACTGTCTG

PheAspSerSerLeuAlaLeuArgHisArgAlaArgGluGlnHisProGluTyrTyrLysTTTGACAGCAGCCTAGCACTAAGACACAGAGCCAGAGAACAACATCCGGAGTACTACAAA

AspCys|
GACTGCTGACAGAAGTTGCTGACAGGGGACTTTCCGCTGGGGACTTTCCAGGGGAGGC

TTCGCCTGTAČTGGGTCTCTCTTGTTAGACCAGGTCGAĞCCCGGGAGCTCTCTGGCTAGC

AAGGAACCCACTGCTTAAGCCTCAATAAAGCTTGCCTTGAGTGCCTCAA